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VOLUME 64 NO. 1 OCTOBER 1962

GERALDINE JONCICH
University of California
Berkeley, Calif.

Whither thou, educational scientist?

In the gloom of library stacks, where heels raise lonely, hollow sounds, the dust lies thick on the sequestered volumes that record the scientific movement in education. The behemoths of educational science rest undisturbed except for the forrays of the infrequent researcher into American psychological history or the visits of the still more rare scholar of the history of education. The names of Ayres and Charters, Judd and Bobbitt, Whipple and Courtis evoke little recognition from today's educators and are ignored in current teacher education courses. Only the person of E. L. Thorndike, the giant of educational science, might be granted mention and then a negative portrayal, one that disparages his "inhuman view of mind and mechanistic teaching-learning theory."

The scientific movement is part of education's recent past, its results as visible in today's schools as "progressive education." While its accomplishments still color school practice is hardly the time to neglect its motivations or to ignore its fate. Indeed, it may even be that interest in teaching machines and an invigorated study of thinking and learning will bring us near full-circle, closer to an older definition of the science of education. If the pseudo-science of much of recent educational research faces displacement, the time is surely ripe for restudy of that earlier time of faith and pride when a more rigorous concept of the science of education prevailed.

Writing in the mood of Depression-age social criticism and in the vein of the business-conspiracy theory of Thorstein

Veblen, George S. Counts claimed that education's scientific movement was directly borrowed from industry (*11*, p. 148). Certainly "scientific management" or "Taylorism"[1] was a common topic of conversation around 1910 and the subject of hundreds of articles in the popular press. Schoolmen, too, were given to flattering praise of industrial efficiency. Like most Americans, they were much impressed by the galloping transformation of the nation's manufacturing system since the Civil War; in comparison, the schools seemed to have changed little and, worse still, to lack the tools of improvement. At the 1898 convention of the National Education Association, its president complained that, "While the nation has displayed remarkable energy in many practical fields of industrial and commercial activity, it has put the educational machinery in motion and left it to run largely by virtue of its own momentum" (*15*, p. 57).

Science, the Great Papa

It has been common, then, to link the theory of scientific management in industry with the effort to make education efficient through the methods of science. When the scientific and progressive education movements ceased to serve one another's purposes completely in later years, this relationship served the critics of science well. They could flail away with the charge of "mechanism" and "materialism," accusing the "scientists" of having confused the human mind and heart with the gears and levers of factory machines, of having succumbed to the cost-accounting value theory of the business community. Whatever the weakness of the scientific movement, however, its paternity was not in industry; *pater familias* was science.

Scientific management in industry and educational science, as well as the phenomenon known as the progressive movement in politics and social theory, was the child of an entire age and culture captivated by science. From Darwin to Edison, from Pasteur to Ford, science gloriously marched into the twentieth century, promising intellectual excitement and material advance. In a society having to urbanize its population, industrialize its economy, and "Americanize" its immigrants in half a century—and paying a high tariff in squalor, corruption, and anomie as a result—the appeal of science was intertwined with humanitarian demands for social reform. The story of the impact of science upon the intellectual and social history of the American nation and its relationship to Progressivism has been extensively and brilliantly documented elsewhere (*8*, *17*, *18*, *22*, *23*, *30*). The point to be made here is that education served as one of the arenas in which science was put to the task of making a more beautiful, secure, and efficient society. The school quickly became part of the main show as the progressives among educators wedded the impulse for reform to the faith in science.[2]

Just as political reformers wanted a science of government to put an end to boss rule, corruption, and waste, educators wanted a science of education that would obviate their particular problems. As was said by a leader in the effort to treat school administration scientifically, the purpose was to change administration "from a job depending upon political and personal favors to a scientific service capable of self-defense in terms of accepted standards and units of accomplishment" (*13*, p. 328). But school problems were more than political in nature. Before the turn of the century, the school had come face to face with most of the problems which would dog its operations thereafter. The upward extension of universal education into the secondary schools was reinforced by compulsory attendance laws, which meant retaining a student population never before known to schoolmen. This put an intolerable strain upon the already much challenged proposition that the function of the high school was primarily preparation for college. Research into the extent and causes of differences in learning and the problem of how to accommodate school subjects to such variations among students became a natural task for the proposed science of education.

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[1] After Frederick W. Taylor, who, as a young engineer at a Philadelphia steel plant in the 1880s, began the time-and-motion studies which typified the movement.

[2] The distinguished Briton, Sir Michael Sadler (*25*), told an audience in Scotland that, "an exhilarating rush of common effort" was underway in the United States which "reveals its force at three points—the American workshop, the American office, and the American school."

Ambition and Reform

With the expansion of the universe of knowledge, especially in the sciences, the colleges and universities faced an overcrowded curriculum. This condition was intensified as academic specialization and graduate study increased every year. The elective system failed to solve the problem, and a succession of shifts in subject matter occurred—from the college to the high school and from the high school to the elementary school. Complaints about an overburdened and fragmented school day were the result. The possibility of better "correlating" or "concentrating" school subjects was raised as one solution. Another was that of determining "minimum essentials," removing those learnings which were less practical, meaningful, or appropriate from the curriculum to leave only a central and necessary core. Educational science was expected to have much to say on the curriculum front.

Another incentive for welcoming the assistance of science was the sense of frustration which educators were experiencing as members of a hopeful profession. In their growing desire for professional status, they were exposed to all the pressures and interferences of a public which claimed to know more about running schools than did schoolmen. Academic standing was denied them by university scholars who claimed that teaching depended upon a knowledge of subject matter alone or, at best, was an art independent of pedagogical training. At a time when pedagogy was moving out of the normal schools and into the universities, pedagogues were shunned by the academicians and the world of scholarship. Many saw that the vehicle, both to self-determination and to acceptance, might well be science. "The department of education's place in the university must depend upon its ability to win the respect of those other departments in which the spirit of science largely prevails," was the candid appraisal of one educator. (*16*, p. 378).

Science, then, was to be the greater giver of gifts—to the reform-minded who were entangling the schools in their visions of social progress, to the individual child in whose humanity and distinct nature interest had been awakened, to the American public which had always had faith in education, and to a body of self-conscious and professionally ambitious educators.

The scientific movement is a collective title for a variety of activities which operated on a broad front and which touched virtually every aspect of education (*21*). By the turn of the century, these various impulses had crystallized into a distinct belief that the next great chapter in the story of the American school would be the wholesale turning of education into a rational, systematic, and respectable enterprise.[3] As the argument went, now that the battle for the principle of universal public education had been won, science must be enlisted in the effort to make education truly worthy of the faith and responsibility placed in the schools by the people.

Psychology at the Base

The most natural existing science to help education to become scientific was psychology, especially the "new" experimental psychology of Jastrow, Titchener, and Cattell first, and then of Judd, Terman, and Thorndike. While the activities of the scientific movement showed varying phases and enthusiasms, as did the progressive education movement of which it was a part, the backbone of the movement and its integrating discipline remained psychology. This was especially true until the late 1920s and '30s, after which differences *between* psychologists and the multiplication of different theories or "schools" of psychology reached a climax (*31*, p. 3).

There were several reasons why psychology played this role. For one, at the time when schoolmen began their concerted demand for a scientific education, a number of highly gifted young men were starting their careers as psychologists. As confident visionaries, they were ready to put their new discipline to the test of helping education become scientific. After all, had not the psychophysicists and physiologists of the nineteenth century helped to transform psychology from a branch of philosophy to a science of man (*3*)? Thus, from the beginning, the attempt to construct an educational science was led by able men like G. Stanley Hall, Edward L. Thorndike, and Charles Judd, who were prominent figures in both educational and general psychology.

In addition to the direct participation of psychologists in the scientific movement, workers on its nonpsychological fronts came under the influence of these leaders. Educational psychology was probably the most widely required element in the rapidly developing college and university curriculum for teachers. The two most prominent persons in the attempt to apply scientific principles to educational administration, George D. Strayer and Ellwood P. Cubberley, had been students together in Thorndike's course in educational measurement. William C. Bagley, who became a specialist in teacher education, earned degrees in psychology under Joseph Jastrow and E. B. Titchener. Such examples could be multiplied many times. And while not all of the enthusiasts of educational science came into direct contact with the giants of educational psychology, their rigor, precision, and experimentalism were widely held as a model.

There was yet another way in which the field of psychology helped to determine the course of educational science. The psychologist's interest in measurement and his development of statistics turned educational research firmly in that direction. In fact educators became so enamored of figures, tables, and graphs that all the scientific activities in education are sometimes referred to as simply the measurement movement.

Measurement in education had two aspects, statistics and testing. Beginning in the 1860s, England's Sir Francis Galton made notable contributions to statistics, including the taking of the now ubiquitous correlation coefficient from biology and applying it in psychological research. It was Edward L. Thorndike, however, who made statistics a necessary part of the equipment of all who would work in educational science. Many came to believe that any sincere efforts to make education a science must translate human behavior, school subject matter, administrative organization, teaching efficiency, and the products of learning into measurable units, for the results of scientific efforts in education must be expressed in the universal terms of science, numbers. "All that exists, exists in some amount and can be measured" became the catchphrase when one thought of Thorndike. It was in 1904 that he first published *An Introduction to the Theory of Mental and Social Measurements*. This book and its 1913 revision became the educator's introduction to a new tool which he has not relinquished since.

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[3] The agitation which culminated in the activities of the scientific movement and in the principles of progressive education is forcefully documented in the professional literature of the decades after 1880. Particularly illuminating are the accounts of conventions published in the *Addresses and Proceedings* of the National Education Association. See also any issue of the journal, *Educational Review*, edited by Nicholas Murray Butler.

Tests and Standardization

The Anthropometric Laboratory run by Galton at London's South Kensington Museum played an important part in raising interest in psychological testing. Although most of Galton's tests were physical measures, some beginning was made in mental testing; and by 1890, others had begun the investigations that eventuated in modern testing techniques. Most of the American tests before 1900 were of such special abilities as perception and reaction time. It was France's Alfred Binet who contributed the requisite refinement, a general test of mental ability. In 1908, Binet's scale was translated into English and began to create a profound and not surprising faith in the use of tests. John Stuart Mill once observed that man is the greatest thing in the world, and mind is the greatest thing in man. Therefore, would not the measurement of mind be the greatest achievement of science?

The first mention of Binet's work to the National Education Association was made at its 1909 convention. Just two years later, its Committee on Resolutions gave wholehearted approval to school admission and leaving standards based on intelligence testing. A veritable deluge of tests was produced thereafter. Not only were mental tests devised, but also measures of school achievement in a variety of subjects and inventories of attitudes, interests, and personality. As early as 1914, Whipple, one of the active figures in the scientific movement, protested that new tests were less needed than was exhaustive study of those already in existence (*29*, p. 4). In 1930, referring to this period, Counts wrote (*11*, p. 146):

> During the past twenty-five or thirty years, interest in the accurate measurement of school products has probably absorbed more energy and first-rate ability among students of education in America than any other single activity. Inspired by the techniques which had been perfected in the natural sciences, those engaged in this work have sought to standardize procedures and to impose instruments of testing so that the personal equation of the tester may be eliminated entirely.

With the marvelous clarity of hindsight, it is deceptively simple to criticize the faith and the flurry of the massive attempt to measure the procedures and products of education. It is only *after* the doing that one can soundly appraise the results and note the failures and inadequacies of such an enterprise. Despite Counts's words, however, these educators and psychologists were not *merely* dazzled by the successes of the physical and the biological sciences. As one school superintendent said of the period, "This is a day of Examinations. Examinations as a means of selection of public servants are becoming more and more popular. The movement for the reform of the city, state, and national civil service by examinations seems irresistible" (*9*, p. 174). Also true was the fact that this was a "day of standardization." The assembly line was making industrial tasks and products uniform. The city seemed to be doing the same thing to people. And the Americanization drive reflected a desire to remove the last discordant traits from immigrants. Efforts at standardization were being made in education, too. These took the form of the certification of teachers, the accreditation of schools, and curricular systematization through research studies which determined the "minimum essentials" of the various subjects and set certain standards of achievement. Once initiated, standardization seemed to be self-perpetuating. No wonder that many of the progressives turned on the "scientists," interpreting much of the scientific movement as merely another sign of the twentieth century's dehumanizing of society and denial of individuality.

Science in Administration

Best known to modern students of education is the work of the psychologists—their theories, "laws" of learning, analyses of instincts, studies of individual differences. More obscured are the other facets of the scientific movement, a large part of them appearing in the areas of administration and classroom management. In sheer volume, this mass of investigations probably outweighs all the rest contributed and distributed by education's scientific workers.

The effort to create a science of school administration began about 1907 with the statistical interpretation by Thorndike of data on the elimination of pupils from school. It was not long before city, county, and state educational survey reports crowded the libraries and the newly created research bureaus of public school districts and schools of education. The purpose of these surveys was to make the community aware of school conditions. The reports might include data about the number of over-age pupils in each grade or the variations among the high schools in units of academic and vocational offerings. Plants, equipment, and school personnel were analyzed and the results tabulated to enlighten the community, to stimulate public interest, and to enlist support for the profession. As Judd (*19*, p. 72) told his students,

> When a democratic community delegates its unlimited powers to a number of different classes of people, there is sure to be a succession of problems of adjustment. Ultimately all parties will come to recognize the fact that educational problems can be solved only when a full study of the situation is substituted for personal opinion. Every party will have to be ready to acknowledge the supremacy of a thorough scientific statement of the conditions and results of school work.

We are since too well aware now that such an abdication of opinion to fact has not come about. Both public and profession are often ready to deny or to circumvent fact when it conflicts with something cherished. But there is an important point in Judd's relating of the system of local control to the need to find out; in nations with strong centralized educational systems, schools are *inspected* rather than *surveyed*.

A few reports of school commissions were published, usually by laymen, before 1910. With the development of the techniques of educational measurement, however, the surveys multiplied in number and took on the character of systematic and precise investigations. In 1910, five school surveys were published; in 1920, the number was 73, and in 1930, it was 216 (*26*). Nearly half were prepared for large city school systems, only one of many indications of the impact of the big city upon developments in twentieth-century American education.

Curriculum Science

Flowering somewhat later than surveys of school system operations was the so-called curriculum science movement. This attempt to plan curricula for the schools on the basis of scientific principles was especially popular in the decades after 1918 (*2*, *6*). "An age of science is demanding exactness and particularity. The scientific task preceding all others is the determination of the curriculum," John Franklin Bobbitt, the high priest of curriculum science, wrote then (*2*, p. 41-42). His campaign for the use of scientific method represents the penultimate in the service of scientism to the social utility view of school learnings.

As early as the middle of the nineteenth century, the English philosopher and psychologist, Herbert Spencer, directly stated the proposition that the criterion of usefulness should determine the subjects of the school (*27*). In 1918, the Commission on the Reorganization of Secondary Education, appointed by the National Education Association, issued the famous report known as the "Cardinal Principles of Secondary Education." According to a contemporary observer, the educational aims embodied in this report differed from all those of past theorists in that "they were determined through an analysis of the activities of life now engaged in or most likely to be participated in" (7, p. 32). The Commission's conclusions, which bore a startling resemblance to Spencer's, were a powerful endorsement of the principle that the school curriculum should be composed of those skills, facts, and principles directly useful in life and that they can be determined by an objective study of life experiences.

The employment of objective methods of determining the most needed knowledges and skills really began, however, in the work of the Committee on the Economy of Time in Education. This body, formed by the National Education Association in 1911, began to define the "minimum essentials" in various subjects, and its results were published as yearbooks of the National Society for the Study of Education. The creation of this committee was a direct response to what was considered an overcrowded and lifeless curriculum, but the employment of systematic investigation, measurement, and the quantification of results seemed a significant early success to those who would make education scientific. Education that prepares for life, said the curriculum scientist, prepares for specific activities. These activities can be analyzed to show "the abilities, attitudes, habits, and appreciations, and forms of knowledge that men need. These will be the objectives of the curriculum . . . numerous, definite, and particularized" (*2*, p. 42). By 1933, it was reported that 35,000 published local courses of study were on file in the library of Teachers College, Columbia University (*1*, p. 145). Anyone who has recently participated in local school curriculum committees must be painfully aware of how much of the rationale and language of this operation still lingers on!

Curriculum research studies have been of several kinds. Sometimes "experts" were queried, as when Wooters asked historians to state the relative importance of various dates in history and Camerer asked bank cashiers about the banking information to be considered most essential to depositors (*20*). Frequency of use became a criterion for the inclusion of words and concepts in reading, spelling, and social studies. The technique of job analysis was used in industry and applied in constructing courses in vocational education. Textbooks were analyzed to identify their common materials. Investigations were made to see at which points students had difficulty, and the results were used in rearranging and grade-placing teaching materials. The number of such studies cannot be stated, so extensive an operation did they represent. Undoubtedly, they influenced the curriculum considerably, especially through new textbooks which embodied many of their conclusions.

The Years Since

Like educational progressivism, educational science is today both in eclipse and entrenched. There is now a virtual abandonment of the view that scientific methods can be thoroughly applied to *all* aspects of education so as to turn education into a science in its own right. The influence of personality theories in psychology and the emphasis on creativity of the later progressives led to a renaissance of the "art" in descriptions of the teaching act, and today's jargon describes the teaching-learning process as one of "interactions" between humans instead of as "the systematic formation of association bonds." By 1930, Counts was writing, "Many able students of the question are contending that the solution of educational problems does not follow automatically from investigation and that provision must be made for a process of synthesis and evaluation which lies beyond the confines of science" (*11*, pp. 170-171). In perceiving a "relaxation of the grip of science," Counts may have been forecasting rather than describing, and the "able students" of whom he wrote were largely the progressive critics who shared his own persuasions. Nevertheless, his analysis describes what came to pass.

Although the expectations of achieving a science *of* education were abandoned, and although criticisms of the use of the methods of the physical sciences in the study of human behavior mounted, much of the movement was becoming well established.[4] Schools of today bear many signs of this, in everything from their commitment to many of the findings of stimulus-response psychology to their reliance on the instruments of measurement. Perhaps fully as important, the educational profession has succumbed to an elemental notion of the scientific movement—that education is capable of and must become a rational enterprise based upon a well understood and objectively determined theoretical framework. True, the term "science" is rarely heard, but "research" has surely pre-empted its place.

This professional commitment to research is hardly unusual now that teacher education has nearly completed its move into the colleges and universities. Official pressures for research study—often as uncoordinated, inconsistent, and ill evaluated as the "research" which the pressure produces—must be held partly responsible. But some of the actual accomplishments of those earlier years of hectic activity must also be credited. Ill-used though much of educational research data may be, there is a general belief among educators that scientific investigation has contributed significantly to the improvement of education and to the growth of the profession. Even those who contend, for example, that after fifty years of research we know less about the learning process than ever, may be thinking anachronistically. Perhaps educational science has been raising our standards of criticism—a case of one's having to know *something* before he realizes how little he really does know! Many of our presently seen deficiencies in knowledge and defects in practice may only be recognized *because of* what we have recently learned.

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[4] Even the Great Depression failed to halt this trend, despite the reduction in the strength of professional organizations, the considerable turnover in the teaching corps, and the necessary constriction of the educational journals which serve as the primary media of research publication. A report prepared in 1937 for the Social Science Research Council by its Committee on Studies of Social Aspects of the Depression indicated that research had established itself as an integral part of the professional preparation of teachers and executives in education.

Progressives vs. Psychologists

A review of the criticisms of the whole continuum of educational research shows two quite different kinds of critiques: one that stems from the philosophically oriented progressives, the other from psychologists and others of the "noncommitted."[5]

Late in the third decade of this century, progressive educators like Counts, Boyd H. Bode, and William H. Kilpatrick began to take serious issue with the work of the "scientists." As was shown, there was nothing inherently incompatible between the desire to approach educational problems in a scientific fashion and the progressive's initial reform platform. But as the scientific movement ran its course and progressivism in education unwound in several directions (*12*), a schism developed between the two reform groups, evident by 1930. Some of the contention resulted from misunderstanding, perhaps. For example, the data from psychological study promoted the theory of grouping children by ability, a practice not favored by the progressives. At least some of the scientists, however, regarded such grouping as only a first step in moving conservative public opinion to an ultimate recognition of the necessity of providing for the educational needs of all children on an individual basis (*28*, p. 46).

Much of the disaffection resulted from a clear recognition that the "scientific" faction was sponsoring activities which were affecting school practices in ways disliked by the "child-centered" and "social reconstructionist" wings of the progressive education movement (*12*). Because psychological research in learning necessarily began with the more measurable and available skill subjects of tradition, science was blamed for perpetuating the *status quo* and for reinforcing the evils of social conformity. This was at a time when American education required a basic reorganization, according to the social reformers disillusioned by World War I and its aftermaths, by the frivolity of the 'Twenties, and then by the Great Depression (*24*). It was complained that, "the feverish and uncritical fashioning of tests in terms of the existing curriculum and in the name of efficiency has undoubtedly served to fasten upon the schools an archaic program of instruction and a false theory of the nature of learning" (*11*, pp. 147-148). Since Bobbitt's type of curriculum study analyzed established school subjects, materials, and community activities, it reinforced the progressive critique of the work of the psychologist. It was also charged that existing studies of motivation perpetuated anti-social competitive impulses. Another charge was that the teaching process was again being formalized by a mechanized teaching theory and a centering of attention on the less important products of the school—on the memorization of facts rather than, for example, the formation of attitudes and creative thinking. Despite the fact that Thorndike and his colleagues made the facts of individual differences explicit and graphic, it was charged that other studies—like those which showed that class size has no consistent relationship to objectively measured results of learning—were perpetuating the unhealthy American preoccupation with the mass approach. At least part of the story of the disaffection of pre-1930 educational science and the most zealous of progressive theorists is an illustration of the quandary of those who want science to prove rather than to find out.

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[5] A devastatingly satirical critique of progressive education, based on extracts from the curriculum guides of Los Angeles and St. Louis, was published by H. E. Buchholz (*4*), a patron of the journal, *Educational Psychology*, since taken over by the American Psychological Association, and the writer of a column on education for the Baltimore *Sunday Times* under the pen name of Ezekiel Cheever.

Modern Sequels

Because of the supposed inadequacies of the older approach to scientific investigations, and in sympathy with pedagogical principles of progressive education, there have been attempts to redefine research and to stimulate a kind of study presumably more compatible with the uniqueness of the educative process. "Action research" is one such attempt (*10*). Whatever may be said of these attempts in terms of the rigor of their design and in the widespread applicability of their results, they are probably as far from 1915 educational science as it was from the physical and biological sciences which inspired the original scientific movement.

Of course, some of the same specific criticisms of the approach and the achievements of educational research have been made by those not necessarily grinding the progressive ax. Charles H. Judd, for example, repeatedly stressed the need to investigate the *process* of learning rather than its more accessible but probably less significant *product*. He also tried to distinguish between the kind of learning often studied in the psychological laboratory and the so-called higher mental processes, a distinction which Thorndike refused to recognize.

Much of the objection to educational science coming from scientists, however, has been directed at the failure to relate, synthesize, and make usable the data already available.[6] Because research is analytical by nature, it breaks complex problems down into small ones for purposes of study; the result is fragmentation. One is reminded of Isaac Kandel's observation that the psychologist is like the watchmaker who carefully disassembles a clock, cleans and examines each of its component parts with great deliberation, and then cannot put the parts back together again. Is anything more characteristic of educational research of the past quarter century than its accretion of disorganized and disparate pieces of evidence?

To Increase Accessibility

The inaccessibility of many studies, buried as they are in the files of school and university research bureaus, in the archives of graduate schools, and in a score of journals is a much lamented fact. But further problems, like the barriers of technical language and the lack of standards of evaluation possessed by teachers, may be indictments of teacher education rather more than of the research itself. The same thing may be said of the rationale of modern "action research." It complements a teacher's inadequacies in using traditional research and redefines research so that it will conform to and perpetuate deficiencies which may again be more due to failures in professional education than to inherent limitations in teachers or in the school-laboratory relationship. As Peter Drucker has written, it is a sickness to be more concerned with avoiding mistakes than with the taking of the right risks, with counteracting the weaknesses of people rather than with building strengths in them (*14*, p. 93).

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[6] In spite of the reasonable supposition that the many research bureaus attached to larger public school systems would help to perform some of these functions, they have been largely supervisory and administrative in nature, often doing little more than collecting test results (*32*).

Finally, too much of latter-day educational science fits Buckingham's condemnation of reports which "consist of a series of tables and graphs with a weak submission of the problem to the public as one which requires further investigation" (*5*, p. 36). The pressure to rush into print cannot be ignored as a reason, if not as an excuse, for the lack of promise in the present situation. But an unseemly and singular lack of nerve must also be exposed, one clearly inappropriate to a research-minded field. Scientific knowledge does not merely accumulate. As Henri Poincaré, the French mathematician, has said, as a house is more than a pile of bricks, a science is more than a collection of facts. Daring hypotheses, so promising in the earlier days of the scientific movement, are essential to the progress of a science. Are they any less crucial to a discipline which has despaired of becoming a science? The past thirty years seem to mark a diminution of purpose and vigor. In this century in education, the last three decades cannot match the first three in either brilliance or daring.

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Research in education: Directions and misdirections

PSYCHOLOGICAL RESEARCH IN education today concerns itself almost exclusively with the pupil—to the neglect of teachers, counselors, principals, superintendents, deans, and all the others involved in the educational enterprise. The areas and problems selected for psychological research have been determined by resources more limited than are now available. They have also been determined, it seems to me, by misguided devotion to principles and methods appropriate to physical science and medicine, but not necessarily adequate to the complex, reciprocal, idiopathic relations which obtain in education and psychology. To the extent that the areas or problems selected for research and the methods of investigation reflect past meager resources and peripheral or extraneous disciplines, psychological research in education is rowing up the wrong stream —or at least not exploring all the streams that it should as efficiently as it might.

Resources for Improvement

This situation can be changed if insight, policy, and funds can be combined in a new orientation. Fundamental in this new orientation is recognition that there is a functioning federal government of the United States which is *not* something remote, monstrous, and concerned exclusively with collecting the income tax, but which is responsive to the needs of the nation, to the voice of the people, and to the appeals of specialized groups. I am referring not to the Congress alone, but also to the Executive Branch and, in particular, to such agencies as the US Office of Education, the National Science Foundation, the National Institute of Mental Health, and others that are interested in advancing knowledge in the fields of education and psychology.

On most campuses, the prospect of a fair share of university resources going into *educational* research appears to me quite dubious. In any event, the strictly academic (nongovernmental) resources available for research of any kind are generally extremely meager; and in the years ahead, these strictly academic resources will probably become still more inadequate as more and more funds and more and more faculty hours are consumed by the impending tidal wave of new students (due to hit with full force in 1965). The time has come when educational psychology must more ac-

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The opinions and conclusions expressed here do not necessarily reflect those of the US Office of Education or of the Department of Health, Education, and Welfare.

tively seek larger resources—from the federal government. Such additional resources, however, should not be used to continue research on traditional problems by traditional methods. A more highly organized or concerted attack is indicated; neglected problems or areas must be given attention, and research must be conducted on *how to bring about* and *how to put into practice* the changes which research proves desirable.

In all this, the specter of "federal control" must be recognized for what it is —an improbable illusion, born of fear unfounded in experience. Some of the large foundations are now exercising a degree of direct control, both in the selection of problems and the methods of attack, far greater than anything expected from the federal government. Let there be an end, then, to the doubts and questionings of the intelligence and morals of government. I dare say that the federal government is less tradition bound and more boldly intelligent in matters of policy than the typical academic senate. As the new Chancellor of the University of California, E. W. Strong, has put it:

> Increased Federal support is a necessity. We should be challenged by the prospect rather than dismayed in seeking to have this support. . . . Our doubts and questionings . . . are not well-couched if directed to obstruct or diminish the support we need. They are well-directed if serving to open the channels and areas unduly neglected up to the present (*3*).

Scope of Inquiry

Let me ask some rather basic questions about psychological research in education, and indicate what seem to be the answers. What is the proper scope of educational psychology? Should it, for example, be as much restricted to the pupil as it is at present? Can research do anything to reduce the gap between advancing knowledge and established practice? What methodological and organizational innovations in research are needed? How can due recognition be gained for the contributions of psychological research to education? How can additional funds for research be secured? These are obviously large questions. On the answers, it is apparent, depend the directions which research in educational psychology should take.

The education industry—covering close to 50,000,000 students, employing nearly 2,000,000 teachers and professors, and budgeted at over $25 billion annually—is the largest nonmilitary undertaking in the nation. It includes a wide variety of persons professionally engaged in education—not only instructors, but also librarians, counselors, speech correctionists, textbook writers, specialists in audio-visual aids, supervisors, principals, superintendents, specialists in plant construction and equipment, deans, presidents, trustees, and schoolboard members. It includes a wide variety of functions: not only teaching and remedial training, but also curriculum development, administration, finance, and public relations. Similarly, it includes all kinds of learning: motor skills, social skills, verbal knowledge, interests, attitudes, appreciations, values, and habits (of health, safety, work, and recreation). There are, I should say, important applications of psychology to *all* these persons, to *all* these functions, to *all* these types of learning; and research in educational psychology should correspondingly extend to *all* these persons, *all* these functions, and *all* these types of learning. At present, however, vast fields remain unexplored and untouched, not because they are unexplorable or untouchable but because educational psychologists have never had the resources to mount a broad attack on all fronts.

The pupil has been most accessible to those seeking MA or PhD degrees, so it is pupils (or even rats or pigeons) that have figured in master's and doctor's theses. Study of the acquisition of academic knowledge calls for fewer resources than, say, study of factors affecting the public financial support of education, so we have numerous studies of spelling, but few of public opinion. After a while, necessity and custom tend to become rationalized as virtue, whereupon some (perhaps many) adopt the view that educational psychology *should* be restricted to its present limited scope in order to remain respectably "scientific." Obviously, I do not agree.

Importance of the Practical

The scope of needed research extends even farther than has been indicated. Research in educational psychology, as in most sciences, has been directed principally at scientific discovery rather than practical application. We try to look into process and causation, and we generally get some idea of *what* to do but not *how to do it*. Thus, we observe wide individual differences of ability, background, and interest, and indicate that the most efficient learning takes place if these individual differences are taken into account in the selection of curricular materials, methods of teaching, grouping of pupils, etc. How much help has psychological research provided, however, in solving the problems of administration and public relations which arise in connection with, for instance, the grouping of pupils or curricular differentiation for upper-elementary-school children in the public schools? Surely there are human, psychological problems in implementing the recommendations derived from the original studies. Research, I say, is as much needed on the implementation of recommendations as it is on the discovery of the basic relations leading to the recommendations. Implementation, of course, is the function of the educational administrator, who needs aid and support from numerous sources. Every failure or inadequacy of implementation provides a challenge to research to discover the factors—legal, geographical, financial, traditional, but usually, at bottom, human and psychological—which make further progress difficult or impossible.

An exceedingly practical (hence, exceedingly important) aspect of research in education is the assessment of cost in relation to gains. Whenever a new proposal is considered, the specter of cost arises, and hard-nosed calculations usually follow. While cost accounting is an honorable profession, one can hardly doubt that a one-sided emphasis on costs frequently blocks progress. Counterbalancing the costs, of course, are the benefits to be gained. Sometimes the cash value of benefits can be reasonably closely calculated; thus, it may be easy to make a reasonable estimate of the money savings to a school system if it were to adopt acceleration as a policy for its gifted children. Similarly, assuming that college training increases the earning power of the graduate, we may be able to estimate that the increased "take" in income taxes more than pays for the cost of a typical college education. Ordinarily, however, this kind of direct calculation is not possible. Just what, for example, is the cash value of counseling which results in better and quicker occupational adjustment? How much is the better and quicker adjustment worth to industry? How much to the individual? How much money are we justified in spending for counseling (surely the sky is not the limit)? Serious research is needed on questions like these; and it seems to me that the educational psychologist has a place on the research team along with the cost accountant, the tax expert, the economist, the school superintendent, and the public administrator. If the educational psychologist is not there, it is certain that the psychological and human factors will be undervalued if not almost entirely ignored.

New Approaches

So much for the scope of psychological research in education, and the place of further research in the practical implementation of research findings. Are any new directions desirable in the methodology and organization of research in educational psychology? Beyond a shadow of doubt, the answer is yes. Briefly, in current terminology, a "systems" approach is called for. What does this mean?

We often say that the learning of pupils is complex, being tied to the child's or student's interest, his past experience, his various home, neighborhood, or cultural influences, etc. This same complexity characterizes every aspect of education, from teaching to tenure, from educational supervision to school bond elections. A complex situation can be investigated in various ways, all useful. One approach is the analytic or piecemeal one, in which one segment or aspect of a problem is studied more or less in isolation or under so-called "controlled conditions." At the other extreme is the large-scale, long-term investigation, which attempts to study simultaneously as many factors and their interactions as possible. We do not have enough of either type of study, but surely we have had more of the small, cross-section, fragmented type (in the form of MA and PhD theses) than we have had of the other. A crucial need now is for more studies utilizing the large-scale, long-term, comprehensive "systems" approach. This approach calls for a research organization extending beyond the single college professor and the resources available to him. The various institutes of child welfare established by Rockefeller funds during the 1920s are a good example of a "systems" approach in the field of child development. In a much narrower field, The Center for Programed Instruction in New York City is another example. In atomic science, Brookhaven—representing the cooperative effort of several universities, supported by the federal government—is another example. Unfortunately, so far as I know, we have *no* center working, on a scale comparable to that at Brookhaven, on *any* research problems in education.

We should, of course, be extremely grateful to the individual students and professors who have advanced our knowledge of the psychology of education as far as they have. But complex, large-scale problems can benefit also from research on a larger scale, extending beyond the resources, interests, or lifetime of one individual. One should look hopefully, therefore, for the development of research centers or institutes which will permit a large-scale, long-term "systems" approach to educational problems. In any such center or institute, the educational psychologist ought to occupy a prominent place.

One special type of institute seems to me especially needed, a national institute for educational measurement. The importance of measurement in education can hardly be overstressed. Slow or costly methods of measurement constitute a serious handicap in much educational research; inadequate methods of measurement obscure or confuse research findings. The absence of feasible methods of measurement may block off entire areas from significant inquiry.

One of the first undertakings of the proposed institute for educational measurement might be a thoroughgoing, long-term investigation to develop a useful, practical, widely acceptable measure of teacher effectiveness. Such a measure is logically needed for merit-pay plans, which, in turn, are psychologically needed both for the improvement of teaching and the liberation of funds for higher salaries for teachers. One fatal question affecting teachers' pay scales—and, for that matter, college professors' pay scales, too—is, "would you vote for higher taxes in order to give all teachers, including the most incompetent ones that you know, an increase in salary?" I am not overlooking the existence of the Educational Testing Service, which performs well in its own field of measurement. What is needed, however, is an organization far larger and much broader than the ETS, probably supportable only by federal funds.

Money and Publics

There remain the key problems of gaining recognition for the contributions of psychological research to education and of securing adequate funds. Here it appears that we have had practically *no* research, so what is needed is not a new direction but a *beginning*. Rudolph Flesch, in a book devoid of scientific merit (*1*), was able single handedly to blackball years of research and progress in the teaching of reading. Why was this possible? Was the public in a mood to accept this kind of criticism of the schools? If so, what were the origins of the mood? How can a proper public appreciation of the problems and hard-won progress in education be developed? How can public recognition be gained for the great potential of psychological research in education? When educational psychologists neglect the opinions and viewpoints of the public, they neglect the root of support for all public education.

For many researchers, money is both a tiresome topic and a vexatious problem. Fortunately, however, some researchers or research administrators find money problems fascinating. I am not sure that much research is feasible in the area of money raising, except insofar as research is feasible on public attitudes toward educational research and toward educational costs. Quite possibly, those responsible for the granting of funds would not greatly appreciate being studied (perhaps they believe in shining the light of science on all but themselves). In any event, it seems clear that the largest direct and indirect source of funds for research in education (including educational psychology) is the federal government. Without the governmentally granted privilege of tax exemption and the encouragement of tax reduction, private philanthropy for educational research would dry up.

Federal support of research appears uniquely appropriate because, generally speaking, the findings of research are applicable across state lines. Already, the US Office of Education supports extramural educational research to the extent of over $10 million a year. This program of support is fairly new. Much depends on the interest of colleges and universities in this program and the effective communication of this interest to appropriate officials in both the executive and legislative branches. The interest, however, must extend beyond a mere request to Congress for appropriations to support the program. Research proposals must be received from the best institutions and the best investigators; and the research which is subsidized must be competently executed and intelligibly reported. And, to speak plainly, the research can hardly deal with such a topic as "Exteroceptor Motivation in the Behavior of Earthworms" (to quote one title *not* supported by federal funds). There is, I think, great promise in the federal interest in education and educational research, provided that education speaks up—not as a lobby, but as a professionally qualified group, devoted to the public interest and competent to serve it.

Pigeons to Pupils

I have spoken at some length on new directions for psychological research in education. The title of this article also includes the word "misdirections." Perhaps "misdirections" is too strong a term. I think we need *more* research—on a larger scale, over a longer period, with attention to application and implementation as well as to theory, and with attention to public appreciation as well as professional approval. I cannot find it in me, however, to disparage what is now being done, except in one field, the field called "learning theory." Here it seems to me that the effort and funds expended are grossly disproportionate to either current or potential returns. Anyone who has read Ernest Hilgard's book on *Theories of Learning* (*2*) must agree that the field is intellectually fascinating. Yet it seems to me that learning theory, based as it is on the simplest types of learning, generally in subhuman species, proceeds on the false hope that its findings will be applicable or helpful in connection with significant problems of human learning. In this connection, one cannot help being startled by an obvious contrast. On the one hand, we find investigators making separate studies of, say, TV presentations in physics versus history on the ground that what is found in one field may not be applicable in another. Experience seems to justify this caution. Yet it appears that investigators, proud of scientific rigor in their own specialty, do not hesitate to project their conclusions from pigeons to pupils. The evolutionary and psychological leap here seems to me unbearably great. In my opinion, learning theory, based on learning in subhuman species, has probably distorted and misguided, rather than advanced, our understanding of human learning. This seems clearly true of the early puzzle-box experiments of E. L. Thorndike, and it seems to me true, also, of the work of his extremely capable successors. Granted that there are some elementary, positive transfer values from animal to human learning, to the extent that human learning differs from subhuman (in level, complexity, motivation, etc.), it seems more than likely that there are also serious *negative* transfer values. It is hard to suppress the thought that if human learning in the classroom could be studied as easily as animal learning in the laboratory, we would have more studies of the former and fewer of the latter. (The recent strong interest of experimental psychologists in "teaching machines" seems to add force to this observation.) The attraction of "learning theory," it appears, derives largely from its accessibility to experimental investigation rather than from its intrinsic validity in application to human learning.

Present Free from Past

In conclusion, what is most important to recognize is that, in education as well as elsewhere, the past is not the present. Education is now a vast enterprise, enormously visible, indispensably useful, and basically approved by the great majority—yet, by virtue of its size, cost, and complexity, the object also of persistent attack. The multiple facets of education present endless opportunities for psychological research; and the availability of increased funds suggests the feasibility of a more thoroughgoing, systematic type of research, organized around the problems to be solved rather than around the highly limited resources of the individual research worker.

In education, psychology now finds both a majestic opportunity and a deep moral obligation to enlarge its contribution. The national interest requires that psychological research in education receive greater consideration and support than it has yet been granted. The most immediate agents of progress here would appear to be psychologists and educators themselves, the universities, large city or county school systems, the American Psychological Association, the National Education Association (including its component associations and commissions), private foundations, state departments of education, and last but not least, the federal government. The potential for a "great leap forward" lies before us, provided that increased resources are organized in an orientation free from the timidity of poverty and delivered from the veneration of tradition.

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The improvement of educational research

THE BEHAVIORAL SCIENCES SUBPANEL of the President's Science Advisory Committee has just issued a report which, among other things, points out the "... failure of education to make technical advances comparable to those seen in other aspects of our national life" (*10*). In partial explanation of this failure, the report states that "...for the past 25 years few outstanding research workers in the behavioral sciences have exhibited interest in education research."

A Sorry Scene

These observations come as no surprise. Addressing the American Educational Research Association in 1957, the late Percival M. Symonds stated, "When the AERA was founded, a small group of persons was fired with the belief that through research education could be improved. One must be frank in saying that the results of this movement have been disappointing" (*13*).

The President's Advisory Committee blames this condition partly on the fact that although education has a national budget second only to that of national defense, only a small fraction of one per cent of this budget is spent on research and development. It is true, of course, that any private industry would soon go out of business if it tried to meet its competition with so negligible a research outlay. But even more disturbing is the further observation made by Symonds: "If research in education were to expand significantly, the real bottleneck probably would not be the lack of money, but the lack of trained personnel" (*13*). He was not alone in his opinion. Only recently I was visited by a distinguished person in educational research who is making a national survey of research activities in university departments of education. He privately voiced the opinion that putting more money into the usual channels for educational research would not solve the problem. The reason, he said, is that there is not enough research enthusiasm coupled with enough research competence in the field to make the best use of even those funds now available.

Why should there be this lack of qualified research workers? It is especially perplexing when one considers that the number of doctoral degrees granted in education over the past 20 years exceeds that in any other field.

During this period, 16 per cent of *all* doctorates awarded in the United States have been in education (*9*). Physics, chemistry, psychology—each has only about one-third as many.

The doctorate has traditionally signified interest and competence in research, and education is clearly not slighted in its share of doctoral graduates. Yet Symonds concluded, "One may be impressed by the output of published reports of educational research, but, frequently, a closer inspection leaves disturbing doubts as to the quality" (*13*). Similarly, Ryans, after making a nationwide assessment of the situation, pointed out that "Experimental research... appears to be engaged in practically not at all by the offices of research... experiment, which is at the very heart of research in the behavioral sciences, plays little part in the activities of researchers in practical school situations" (*12*). Ryans chiefly blamed the poor quality of research workers.

Further evidence of the dearth of significant research in education is the fact that most of the substance in books on educational psychology has come not from educational research itself but from psychology, sociology, and anthropology. Despite the fact that there are more than 1,200 educational periodicals (*8*), fewer than 15 per cent of the references in a typical widely used textbook in educational psychology are from them (*11*).

The big question then, it seems, is why educational research has not lived up to the promise which is often fulfilled when scientific methods are applied to a problem. Education certainly has all the necessary elements for basic scientific research and its technological application. Yet the consensus of opinion holds that education has been denied its share of the rewards of scientific endeavor.

A Diagnosis

The diagnosis in this case may seem more drastic than the remedy, but the causes of the ailment must be sought before a cure can be effected. Furthermore, unless the roots of the trouble are exposed, any prescribed treatment risks being aimed at superficial symptoms instead of at basic causes.

Insufficient money for research, for instance, is at the moment only symptomatic of the problem and not a basic cause. It is even possible that too much money is currently going down the drain in the name of educational research. To some extent, of course, a certain amount of seeming waste is inevitable even in good research, which involves experimental trial-and-error and at times betting on a long shot which, more often than not, fails to pay off. Every good experimenter has had "duds," experiments which unforeseeably fall short of answering the questions to which they were addressed. Though such failures are not cause for joy, neither are they despised by the scientist, who views them hopefully as steps to an experimental success.

But there is another kind of failure, of which education has more than a fair share—the "safe" project in which the variables under study are so trivial, local, or unreliable that, even when the research goes exactly as planned, the results and conclusions neither answer nor give rise to any fundamental questions.

Much of this state of affairs is caused by an odd gulf between education and the systematic study of human behavior. Yet it is within this broad field of the behavioral sciences that one finds fruitful contexts for rigorous investigation of the phenomena most germane to education. The contribution that psychology can make to education, for example, would seem far to outstrip its potential contributions even in the field of mental illness, where diagnosis and treatment may ultimately be based more in physiology and biochemistry. Psychologists who disdain educational research overlook the field with perhaps the greatest promise for socially significant applications of their science.

For education has to do primarily with *learning*, which, stripped of mystical effluvia, means changing the probabilities of various responses in the individual's behavioral repertoire. Educational research essentially is the systematic study, by means of experimental and statistical methods, of the factors—hereditary, developmental, and particularly environmental—of which changes in response probability are a function. In order not to include all of psychology in this definition, we can add that educational research is chiefly concerned with that class of behaviors called school learning, that is to say, the kinds of behavior it is the school's function to bring about—competence in the 3Rs, the understanding of certain subject matter, and the ability to think effectively.

Merely understanding behavioral change, however, is not the only goal of educational research. Of major importance is the technology of controlling behavior, in relation to which basic psychological research plays a role similar to that of biochemistry in medicine and of physics in engineering. Inevitably, at the heart of educational research, therefore, is psychology, particularly the psychology of learning, but also the psychology of growth and development and of individual differences. Properly viewed, nearly every branch of educational research—curriculum, guidance, elementary, secondary, and adult education—has its basis in psychology.

Research Training

Thus, to get to the root of the problem, we must consider the preparation of our potential educational researchers, for the most part students working for doctoral degrees in university departments of education. Much of the scarcity of research talent in education may stem from the probability that a sizeable proportion of its students differ in certain important ways from the majority of graduate students in other sciences. It is known that, in general, students in education are older[1]; they are lower in scholastic drive and aptitude (*3, 5, 6, 15*), and they undertake their graduate work with comparatively little specialized knowledge in appropriately related fields. All but a minority have shunned scientific subjects in their undergraduate years, most of them having come from the humanities or from teachers colleges. While in other fields some background in the subject is absolutely essential as a prerequisite for graduate courses, students in education come from a variety of undergraduate backgrounds, often with little connection with their graduate fields of specialization. Many of the older students are school teachers who work for their advanced degrees halfheartedly and sporadically (*14*). Most of them regard the doctorate merely as a "union card" for advancement in the public school hierarchy. Scholarly or scientific motives are conspicuously lacking in this group. Moreover, students with a background in school teaching often come to graduate school so full of the immediate, practical problems of the classroom that they are intolerant of the

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[1] The mean age of receiving the doctorate in Education at the University of California in the last decade (N=299), for example, is 38.67 years, with a standard deviation of 6.81 and a range from 25 to 63. Fifty per cent are between the ages 34 and 43.

"abstract" or "theoretical." Fewer of them become interested in fundamental problems that seems to be the case with students in other sciences.

One effect of these conditions is that many graduate courses in education are *introductory* courses, often conducted on an undergraduate level. This is, of course, unavoidable in some courses of the strictly practical kind which are necessarily both introductory and terminal. Unfortunately, when many graduate students enter doctoral programs in education having only such courses in their background, every instructor is forced to pitch his course in a low intellectual key. Graduate work in measurement, statistics, educational psychology, and child development should presuppose a substantial background in mathematics, statistics, physiology, and psychology. If graduate education courses are not conducted on the same level as those in other departments, education students will not be equipped to conduct research which is conceptually and methodologically commensurate with developments in appropriately related fields. It would be much the same if one were to attempt research in physics after taking only an introductory survey. The likelihood of conceiving a significant problem, to say nothing of the ability to conduct the investigation in a sophisticated fashion, is small indeed. Without extensive undergraduate preparation in the behavioral sciences and statistics, as well as in other courses that develop an appreciative working knowledge of scientific method, the candidate for the PhD must be considered inadequately prepared. At present, however, such standards generally do not prevail, and the education department in most universities is probably the only one in which any reasonably literate layman could enroll in graduate courses with a fair assurance that, if he tried, he could receive consistently passing grades. Training at this level cannot prepare one for research in education or in any other field.

Mediocrity by Default

The most damaging consequence of this state of affairs is that schools of education attract a higher proportion of mediocre students and fail to attract a proper share of the intellectually able. Gresham's Law operates in the academic world as well as in the economic: Mediocre students lower the tone and standards of the courses, which in turn fail to attract more able students, which further lowers the standards, and so on. While the best students in education are as good as the best in any other field, as judged by scholastic aptitude tests, education also has a greater proportion of students of low academic ability (*6*). If the lower one-fourth to one-half were not admitted as doctoral candidates, graduate students in education would probably be comparable to those in other departments, at least in scholastic aptitude. Raising standards is becoming increasingly urgent. With the growing percentage of high school graduates going on to college each year, we are faced with an increasing number of the academically untalented in the college population (*4*, p. 37, p. 66). If standards of admission to graduate programs in education remain unchanged, more and more inferior students will gravitate into education for advanced degrees. Many will embark upon careers in education through default in other fields of study.

The implications for educational research are striking, for there is a correlation between a student's ability and the quality and sophistication of his research (*15*). If we assign a problem to two persons working independently, one with high intelligence and the other with only mediocre ability, the end results of their labors, other things being equal, will be found to differ greatly in conceptual level, methodological sophistication, organization, and originality. No amount of course work, teaching experience, or good intentions can compensate for mediocre aptitude.

It should be noted, too, that a student's intellectual ability determines to a large extent the kinds of problems that attract his interest. Mediocre students cannot think beyond the immediately practical. To them, abstract and theoretical problems, fine points of research methodology, and the study of the basic processes underlying educational problems are uninteresting and sedulously avoided.

Thus, when more than a superficial knowledge of the basic sciences underlying education is lacking, the student's research is likely to be restricted to only those phenomena and concepts with which he has become familiar in his introductory courses and in his experience as a classroom teacher. As a result, there is a plethora of doctoral "research" on quite local, immediately practical problems or on problems of patent triviality from a scientific point of view—the well-known "chair-counting" type of research (*12*). For example, though there is scarcely any resemblance between psychologically and educationally significant factors and the kinds of data typically found in school records, a good deal of educational research has consisted of going through school files and computing correlations among frequently unimportant and unreliable variables.

But to do research on the important fundamental problems of how children learn and why they sometimes fail to learn requires rigorous experimental studies and often laboratory investigation. Unfortunately, most students in education have not acquired a taste for this type of inquiry. It lacks appeal because it is often conceptually one or two steps removed from the emotionally toned problems the student recalls from his experiences as a classroom teacher. It is as if a student of electrical engineering could not become interested in mathematics or physics or in anything not closely related to the few electric appliances he has used at home.

This orientation also makes for education research that is data oriented rather than problem oriented. Data-oriented research is determined by the data already available or most easily obtainable, regardless of their triviality. Specious "problems" are concocted for the convenience of using "dead" data readily at hand in school files. Such research usually lacks continuity and consists mostly of unrelated one-shot studies that never add up to anything significant. Yet long-term, problem-oriented research with some basis in psychological theory is especially needed on many educational problems.

Inhibitory Motives

Finally, there is one other characteristic of some students in education which I mention only with hesitation, since this impression is completely based on my own limited experience. I can only describe it as an antiscientific attitude toward the study of human behavior. These students show an antipathy toward the objective, quantitative, and experimental study and description of behavior, even when the relevance of these approaches to the study of certain aspects of the educational process has been amply illustrated. Such students may pay their respects to science, which in their naive conception is a technology involving test tubes, space capsules, and men in white coats; but their attitude toward the scientific spirit when it comes to the study of human behavior is actually one of hostility. The motivations of such students are clearly not those of the scientific investigator. Working with people, crusading for changes in social institutions, or merely rising in the educational hierarchy via a doctor's degree are their primary goals. Not that there is anything wrong with such motives. Perhaps we need more people so motivated. But we know that these are not the motivations that basically animate scientific research workers. And at present there are far too few students in education whose motivations are those of the scientist. Evidence of this is reflected in the small percentage of persons with doctoral degrees in education who ever do any research after their doctoral dissertation—in fact, fewer than 10 percent. (*2*).[2]

The scientist is interested in his research quite aside from its extrinsic rewards, much as the chess player is fascinated by the game itself. When this is not the case, research becomes a burden or at best a pedestrian chore engaged in for certain academic or professional advantages. This attitude not only kills the fascination and exhilaration which research work can afford the investigator, but it also results in a lack of mutual criticism and stimulation. There is an indifference to one another's work among those for whom research serves merely an extrinsic interest. This may account for the failure to scrutinize critically much of the questionable research in education (*1*). Criticism of a technical sort—*published* criticism—is one of the spurs to scientific progress. Such criticism is too scarce in educational research.

If this diagnosis is in the main correct, the essentials of the remedy seem clearly indicated. First, obviously, there must be improvement of the intellectual quality and the scientific aptitudes and motivations of graduate students in education. This cannot be achieved merely by eliminating students who do not meet a high standard. Too few would remain. It will be necessary to attract into education some of the ablest students in other fields, mainly those in the behavioral sciences. This will not be easy to do, for there are several factors that tend to keep the best graduate students out of education. One is the closed-shop professionalism of many schools of education. They solicit and encourage only graduate students who have come up through the ranks as school teachers and hire only professors who meet the same requirement. This unwise policy creates a selective bias against the potentially best researchers. Another factor is the lower prestige of education in the university community, but this is merely a symptom which would eventually disappear if the proper remedies were applied. To outsiders, education may seem not to afford an intellectual challenge. Students in other fields are often ignorant of the rich research potential for their own specialties (*e.g.*, psychology, linguistics, sociology, anthropology) in educational contexts. Education is a fertile field for the behavioral scientist, and educational problems can provide a challenge at all points along the continuum running from "pure" research to research on problems of application.

In order to attract able students a combination of devices is necessary. First of all, a portion of the money now being spent on educational research *per se* might in the long run be more profitably used for scholarships and fellowships to attract superior talent. Most of this talent will come from the substantive disciplines basic to education. While the student's research and dissertation would have educational implications, he need not completely lose his identification with the department of his specialization. But he would also need a setting that specifically fosters educational research. This is usually not found in a typical department of education, where the major concern is teacher training.

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[2] For example, slightly more than 50 per cent of a sample of 245 clinical psychologists published research beyond the PhD dissertation (7).

Beyond Teacher Training

For this proposal to be successful, education must cease to be identified in the eyes of the academic community merely with teacher training; for when the major responsibility of a department of education is teacher training, educational research is handicapped. Do not misunderstand: The preparation of school teachers is vitally important, and it should itself be informed by the results of research. But a department whose major responsibility is training public school personnel is not likely to provide the atmosphere that attracts and holds predominantly research-minded students and faculty. School teaching is not, and perhaps need not be, a profession in the strict sense of the term. The majority of students going into school teaching are not dedicated to a career in the same sense as are students in medicine, law, or engineering. Women generally regard the teaching certificate as a means of financial security in the years between graduation and rearing a family. Others return to teaching in middle-age when their own children are grown. And a larger proportion of men teachers have entered the field through default than is the case in other professions. Educational research, on the other hand, is a lifetime career. It calls for the same dedication, persistence, and long-term search that are expected of any creative scientist. Its students must be recruited from among those having such inclinations, and they must be nurtured in an atmosphere both congenial and challenging to their talents and ambitions.

Hence my major suggestion: Departments of educational research should be established in universities *apart from the schools of education.* The main function of the latter would continue to be the training of public school personnel. The department of educational research, on the other hand, would have no direct responsibility to the community. It would have no formal connection with state agencies of education, with teacher training, or with the granting of school certificates. It would be strictly a graduate department with standards fully consistent with those of other graduate departments. It would have its own nucleus of advanced courses and seminars, and it would grant only the PhD, possibly in collaboration with other academic departments. Being interdisciplinary, its faculty would be made up of persons in various fields, predominantly the behavioral sciences and statistics, holding joint appointments. Good curriculum research would require participation from almost every faculty in the university working in collaboration with educational psychologists, experts in programed instruction, and the like. Students would take graduate courses in the department of their major specialty along with courses and seminars dealing with educational applications of these fundamental disciplines. The student's dissertation would have educational relevance, broadly defined.

Courses required for certification in teaching, guidance, or administration, on the other hand, would be offered in the school of education. Incidentally, the perplexities caused by the distinction between the PhD and the EdD would also be solved by this arrangement. The EdD, originally intended as a professional degree, would be granted only by the school of education on strictly professional grounds. The PhD, however, is traditionally a research degree and therefore would be granted by the department of educational research (or the academic department with which a student may be affiliated) on the basis of demonstrated investigative competence.

This proposal would, of course, not automatically solve all the problems of improving educational research. But it would be a realistically hopeful beginning. From such a department of educational research one could expect certain benefits, though it may take some time for them to become fully evident. It would provide a center for basic research in education with the advantage of having research talent from all relevant sciences brought to bear on educational problems. With superior students from other disciplines coming into educational research and working with the faculties of various departments, the attractions and research potentialities of this field would become better known. Education would then not be so isolated from the rest of the university.

Creating these conditions would be an important step toward discovering what the application of science and intelligence holds for the betterment of education. The time to start is now.

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Contributors

The unsung heroes of any publication are its advisory editors. Like the director of a play, they are out of sight in the wings when the show becomes visible, but their ideas and recommendations, their criticisms and encouragement, provide a good deal of the character of the drama. We seldom have occasion here to call attention to these highly valued movers and shakers of the *Record,* but a newly constituted Board of Consulting Editors, representing a new concept in the journal, warrants a special underscoring of the role of these very special "contributors."

A glance at our inside front cover will show that our new Board comprises nine people, five from the United States and four from abroad. The sharp increase in members from overseas nations emphasizes both the *Record's* intense concern with international aspects of the educational enterprise and its sincere aspirations to become a publication useful to literally the entire world of serious educators and to all others around the globe who perceive in education a primary route to freedom. Among our Americans, three represent the Teachers College faculty, one the alumni of the College, and one the distinguished University of which the College is a proud part. While these nine people, all of them outstanding as scholars and educational leaders, can never be charged with whatever shortcomings the *Record* may be guilty of, they merit our readers' thanks for much of what there may be in our pages to applaud. And the inside front cover is a page not to be missed! It is one that we display with delight as a symbol of the kinds of standards for which we are sincerely striving.

We hope those standards are apparent in the critical look we take this month at the American educational scene. **Adlai Stevenson,** who needs no introduction anywhere on the planet, provides the necessary international framework with his examination of Soviet-US relations in the world arena. Nobody connected with our schools can fail to find food for educational thought in his suggestions of what we can do to play significant roles, no matter how small, in encouraging the forces making for freedom that are beginning to become visible in Russia. Those forces must neither be overestimated nor ignored, and learning how to make shrewd and wise appraisals of changing nuances in international tensions is clearly one of the most important tasks of all educated men in the free world.

In a somewhat different vein, **Joel Hildebrand** and **Nancy Natwick Fey** evaluate our educational system and come up with some startling similarities (as well as some wholesome differences) from their sharply different angles of regard. Dr. Hildebrand, whose eighty years have brought him honors as chemist, university administrator, and mountaineer and skier, has been a long-term "guerilla fighter in the battle for basic education." His article presents the perspective of long and deeply reflected upon experience with educational affairs. Originally given as an address before the American Chemical Society on 26 March, 1962, when he was awarded the Priestley Medal, Dr. Hildebrand's contribution is reprinted through the courtesy of the *Chemical & Engineering News.* Mrs. Fey, on the other hand, is a brand new BS in Education from the University of Wisconsin, where she was President of the Associated Women Students, Phi Beta Kappa, and winner of the Alumni Award for both the Outstanding Junior Woman and Outstanding Senior Woman.

Another outstanding woman whose work is highlighted in our pages this month is Dr. **Geraldine Joncich,** a member of the faculty at the School of Education at the University of California, Berkeley, and one of the foremost students of the history of the "scientific movement" in American education. She is joined by her colleague, Dr. **Arthur Jensen,** whose last book, written with the late Percival Symonds, was *From Adolescent to Adult,* and Dr. **Herbert Conrad,** a Past-President of the Division of Educational Psychology of the American Psychological Association and Director of the Research and Statistical Service of the US Office of Education, in a searching critique of "research" and "the scientific method" in relation to the needs and mission of education in the United States.

Dr. **T. M. Stinnett,** whose work with the National Education Association and its TEPS project has made him probably the foremost authority on teacher training in the United States, gives provocative vent to his "prejudices" and formulates a platform on the basis of which he believes teaching can become a true profession, making a contribution second to none in the solution of modern society's basic problems. His paper is an adaptation of a convocation address delivered at Teachers College, Columbia University, on 5 June, 1962.

In a very different vein, Mr. **Clarence "Bud" Wilkinson,** the justly famed football coach at the University of Oklahoma and the principal consultant to President Kennedy's Physical Fitness Program, urgently addresses educators on the topic of our fundamental strength and vigor as a people. It is improbable that we can safely let the conveniences that define much of our properly vaunted standard of living sap us of our pioneer-built vitality, and schoolmen must give heed to Mr. Wilkinson's words.

Finally, Dr. **Hubert Evans,** head of the Department of Science Education at Teachers College, Columbia University, contributes our essay-review, introducing us, by way of an appraisal of Isaac Asimov's highly important *The Intelligent Man's Guide to Science,* to a topic that we shall come back to often this year—the crucial issue of how men who are not professional scientists can become sufficiently familiar with the dominant theme of our age, science and its technological applications, to become effective citizens of the contemporary world.

ADLAI E. STEVENSON
US Ambassador, United Nations
New York, N.Y.

Road to an open world

No NATION, HOWEVER POWERFUL, can subdue all the tides of history to its will. But if we study the tides, and if we have some idea of our own aim, we can try at least, as Jacques Maritain once wrote, "to raise new currents in the flood of circumstance."

What, then, is the international aim of the United States? Are we willing to accept a communist world empire or, for that matter, a world empire under any power? Certainly not. We don't even want an empire of our own. Nor are we content to live indefinitely armed to the teeth in a bipolar world, trying by a balance of mortal threats to preserve a measure of peace and freedom. That isn't good enough.

No, what I believe we are striving toward, however haltingly, is something much more intricate and much more tolerant than empire—but less dangerous and less highly charged than this present state of cold war. Perhaps the best word for it is *community*.

Barriers to Community

The obstacles to a real community of nations are many. In the diplomatic struggles at the United Nations, the focus right now is on the colonial and ex-colonial regions, especially Africa. The independence movement has swept a billion people on to the stage of history since the second World War, and its force is irresistible. Our own efforts, at the United Nations and elsewhere, are aimed at channeling these enormous new energies in directions which will liberate rather than destroy—which will build bridges of cooperation instead of digging gulfs of mistrust between continents and regions, between rich and poor, between black and white.

This takes an infinity of patient diplomacy on both sides. It also will take time—decades at best, even if we use the time given to us to the best advantage. But what we hope to produce will be a result noble enough to warrant all the efforts and frustrations: a new international order in which the old empires are replaced not by still another wave of empires, but by a community of the equal and the free and the tolerant.

But beyond this great post-colonial evolution, which is now at the center of the stage, lies another huge challenge: the hostile and still militant power of the Soviet Union. Ultimately the community must deal successfully with that challenge if there is to be real peace in the world.

I have great hope that this problem too, huge as it is, will be solved as the years go by. It will be solved not by our side's seeking to conquer or to dominate the Soviet Union, but by the Soviet Union's deciding, in its own interest, in countless small steps from day to day and from year to year, to join the rest of us in building a world of open societies.

Peace and the Open Society

Just what does the open society mean for world peace? Here is one of the great questions which will condition our lives for many years to come. I am concerned with the longer run. In the long time-scale of years and decades, there are forces at work which make few headlines because they are so huge and because we are so close to them that we can scarcely perceive them—any more than the early mariners could perceive the roundness of the world on whose surface they sailed.

It is time for us, then, to climb the mast—or even into the outer heavens!—and study the great globe itself. In such a long perspective, I should like to think briefly about the biggest country on the face of the globe, the Soviet Union.

Many years ago, in the early days of the revolution, I spent some time in the Soviet Union. Four years ago, I traveled there again and very extensively. I talked with Mr. Khrushchev and many senior officials in Western Russia, in Central Asia, in Eastern Siberia; and although we disagreed a good deal, nobody lost his temper, and I was most hospitably received. It is a wonderful, puzzling, frustrating country. The people are warm hearted and hospitable, and filled with devotion and pride in their country. Having known so much suffering in war, they were deeply anxious for peace. Pleased with the improvements in their material lives since Stalin, they are hungry for more.

Wherever I went, I was literally overwhelmed by the people's friendliness and curiosity about the United States. Yet, alas, enmity, mistrust, and misunderstanding have been the official policy for decades, and the urgent problem is one of how to get through that enmity to establish a real peace.

We know that the only *short* road, by way of nuclear war, is suicidal and is thus closed to both sides. All the other roads are long and arduous. The diplomacy of safeguarded disarmament is one. Germany is another. Peaceful trade is another. Creative cooperation in the United Nations, in aid to emerging nations, in the peaceful use of outer space—these roads all lead toward peace.

But our troubles with the Soviet Union far transcend the traditional realm of diplomacy, and it may well be outside that realm—or in a new kind of diplomacy, at any rate—that the best road to their solution will be found. The route I have in mind is one which our diplomacy has only recently begun to reconnoitre: direct relations between the *people* of the Soviet Union and the *peoples* of the outside world, from whom, even today, they remain almost entirely cut off.

This is the way to an open world. Possibly it will prove the longest road of all; but if we dare to travel it, as I think we must, we may find that the longest way round is the shortest way home.

Soviet Closedness

No small part of the ills of today's world stem from the closed society of the Soviet Union. This closedness—the exclusion of the outer world, the suppression of dissent, the control of personal movement, the secrecy and suspicion—all this goes far back into Czarist Russian history. In the last few years, happily, it has been receding, but so far only a little.

Today that closed society is not only an anachronism; it is a danger to peace when all the peoples of the world, in their rapidly increasing numbers, are being pushed into ever-closer contact by the triumphs of science—global communications, modern air transportation, television by satellite, and all the rest. At the same time, science has also placed in the hands of the strongest nations, for the first time in history, an almost limitless power of destruction.

It is at this fateful moment that one of those strongest nations, the Soviet Union, whose people have so much to contribute to the community of mankind, keeps itself sealed off behind an iron curtain, requires its ill-informed citizens to live in daily fear of imaginary enemies, and proclaims that those imaginary enemies will continue to threaten its existence until the whole world has been remade in the Soviet image. And, of course, by its attempts to remake the world, it has made real enemies where none had been before.

Such are the tragic works of closed minds. Russia has no monopoly of them, of course. Every society, I suppose, including ours, has individuals who hunger for conflict, who seem to get a positive joy out of having an enemy to hate and destroy and will doubtless miss the cold war when it finally ends. Indeed, it is a rare individual who has in him none whatever of this warrior urge! But a closed society goes one fatal step further. It elevates the closed mind into an official requirement; it ordains struggle and conflict as the highest and permanent duty of the citizens; and it brands all those whom it cannot control as actual or potential foes.

It is quite a job to keep a closed society closed. Consider the radio jamming system which the Soviet Government uses to drown out the Russian-language programs of the BBC, the Voice of America, the Vatican radio, and so on. This apparatus includes some 2,500 shortwave transmitters, all of them broadcasting nothing but noise. It costs about $100 million a year to run. Soviet authorities say it is worth it to protect the people from all those "lies," but for that price at least 20,000 Soviet families could travel through the United States or other non-communist countries and find out for themselves whether the broadcasts are lies or not!

How Hear, Read, Travel?

In Siberia in 1958 my party carried a shortwave radio and heard the jamming wherever we went. The United Nations General Assembly was then meeting in emergency session on the Lebanese crisis, and among the programs on the Voice of America which could not be heard because of Soviet jamming was the main speech in the Assembly by—the Soviet Foreign Minister!

Then there are other devices. One is *Glavlit*, a state agency whose permission is required for the publication in the Soviet Union of any book, pamphlet, newspaper, magazine, movie or television program, whether imported or domestic. And there is control over the movement of people. It exists both within the Soviet Union and across its borders. When I went to Eastern Siberia and Kazakstan, I was, by courtesy of the Soviet Government, in a huge area, perhaps 25 per cent of the Soviet territory, which is normally closed not only to foreigners but even to Soviet travelers.

As for travel abroad, that is quite beyond the hopes of ordinary people in the Soviet Union. I shall always remember an eager group of young Russians who drew me into friendly conversation on a summer evening in Leningrad. When it was time to say good night, I said, almost as second nature, "Well, come and see us in America." And one of them, standing there in the northern twilight, answered for all the rest with a single, poignant, memorable word: "How?"

By all these devices the Soviet rulers have made their country into a darkened theater, from which daylight and all the events of the outer world are shut out, and all the play of light and music and action on stage and among the audience is controlled by the director. And just what is the myth which is enacted so dramatically every day in this enormous theater before 200,000,000 Soviet spectators? It is the mighty struggle of the Soviet people and their communist allies to build a society throughout the world under the infallible leadership of the Communist Party and the stubborn resistance of a greedy, ruthless enemy called "capitalist imperialism," a shadowy conspiracy which rules the United States, which plots to destroy communism by war and to enslave the world, but which the common people, led by the communists, are destined at last to crush. Facts which support the plot are published in an endless stream. Facts which contradict it are suppressed. It is taught to school children in their text books, to the millions of young men and women in the Young Communist organization, to the soldiers and officers of the huge and powerful Soviet armed forces—in fact, to all the Soviet people by every available means, year in and year out.

Fortunately, most of the plain people of the Soviet Union don't seem to believe all they have been told for 45 years. If they did, Americans would not be welcomed so eagerly, even in the midst of official hate campaigns. But I fear many Russians do tend to accept the image of an America ruled by warlike imperialists. And, accepting this false premise, they justify under the heading of self-defense all the dangers and sacrifices imposed by an aggressive Soviet foreign policy.

If this is in fact the popular attitude in the Soviet Union—and I have found it so in talks with a good many Soviet citizens —we have little reason to be surprised. The people have a deep patriotism and a yearning for peace which makes them respond with their emotions to these stories. They have no free press, no freedom to travel, no independent way to check up.

Russian Images

Besides, it is hard for a Russian who has spent all his life under communism even to begin to comprehend America. He has no experience of an open society like ours—built to tolerate conflicting values, containing countless small, independent centers of influence, making decisions by majority rule but jealous of minority rights. Instead, like his rulers, he tends to picture America as a mirror image of his own system, a dictatorship of an economic class (in our case, the rich businessmen) bent on world domination.

Mr. Khrushchev himself spoke for that view of America when he wrote in 1959, in an article published here, that probably many of his American readers "think that the idea of capitalism will ultimately triumph." He cannot seem to believe that for us Americans capitalism is not a total system of life or a secular religion by which we seek to evangelize the world. We don't even *have* a "system" in the totalitarian sense because we believe that the human personality requires a margin of freedom, which no total system can ever provide, to make its own choices.

Such a view of life is evidently foreign to Mr. Khrushchev and, to a great extent, to the Russian people too. Yet I believe they will come to it. History, even Russian history, moves on. The violent, fearful Bolshevik revolution, with all the dark weight of Russian history on its back, obviously felt the need of external foes to frighten the people into action. I believe that the modern Soviet Union will one day feel able to do without such dangerous stimulants. Its people are enjoying more and more security and the good things of life. Its leaders now openly proclaim that no enemy dares attack them. Surely it will do no harm now for the people of the Soviet Union to learn at last that nations can disagree, even about fundamentals, without hoping and working for each other's downfall, that we in the United States do *not* desire their destruction, that we do *not* want to dominate the world, that we *do* want a Russia that is strong and prosperous and at peace with its neighbors, and a whole-hearted member of the community of nations.

Curiosity Casts out Fear

The Russians have gained much in competence and in self-confidence in recent years. Along with this comes a new tendency to look abroad not so much with suspicion and fear as with frank curiosity. I met this curiosity everywhere, and particularly among the students who before very long will be the nation's leaders. There can be no doubt of their eagerness for contact with the outside world.

Of course, there has already been progress in this direction in recent years. Soviet cultural and technical relations with non-communist countries, including the United States, have grown since Mr. Khrushchev came to power to a point which would have been unthinkable in the last years of Stalin's rule. The United States and the Soviet Union negotiated an exchange agreement in 1958 which was renewed in 1960 and again this year. There have been many useful exchanges, especially in academic and technical fields and in the performing arts. Other Western countries have cultivated similar arrangements with Russia.

Under these agreements, for instance, Van Cliburn was cheered to the rafters in the cities of Russia, and the Moiseyev and Ukrainian dancers have been cheered to the rafters in the cities of America. A Soviet exhibition drew big crowds in New York, and an American exhibition drew huge crowds in Moscow. American professors have lectured this past year, in Moscow and Leningrad, on American civilization—our literature, our history, and our law. And the full text of an interview with President Kennedy was read in *Izvestia* by millions of Russians.

The mood of the young people in Moscow was shown this spring in an article by Igor Moiseyev, the head of the famous dance troupe. He condemned what he called the "disgusting dynamism of rock-and-roll and the twist"—neither of which, of course, took long to reach Moscow. But then he laughed at the communist puritans who tried to suppress these new dances and said, "The slogan of modern youth is, 'I want to know everything.' It aspires to independence of thought and opinion."

What a revolutionary trend such a statement suggests! And the visit of Benny Goodman to Russia this spring didn't slow it down much, either!

There is a thaw, too, in the exchange of scientific information. In the past few years, Russians have presented important papers at world meetings on atomic science and many other subjects. Now, after a diplomatic launching at the United Nations, there are plans for a permanent "world weather watch"—space satellites managed jointly by the United States and the USSR, circling the globe and giving every country instantaneous knowledge of the world's weather. It would seem that the spirit of openness is going to break some altitude records, and one day I think President Kennedy's plea will be answered: "Together let us explore the stars."

What Now?

The question is: What should be done now?

The least we can do, with the future

of the world in the balance, is to encourage this delicate growth in every way we know.

We should redouble our exchange programs and make them fully reciprocal.

We should end forever such an obsolete practice as the closing off of forbidden zones to foreign travel.

We should hold more exhibitions on each other's territory—not just in Moscow and New York but in cities from Minsk to Vladivostok and from Portland, Maine, to Portland, Oregon. And, if I may insert a personal note, I am still waiting and hoping to see the incomparable puppet theaters of the Soviet Union perform in the United States!

We should adopt a world-wide rule that anybody, anywhere, has a right to read any document issued by the United Nations and that member governments have a positive duty to facilitate the United Nations information program.

We should agree that every nation will welcome to the newsstands of its major cities the serious newspapers and magazines of other nations, regardless of politics.

We should continue to urge the joint TV appearances of President Kennedy and Chairman Khrushchev, about which Mr. Salinger has been negotiating.

We should extend the free importation of books, without political censorship and without custom duty, to every nation.

We should multiply international student exchanges.

We should see that what school children study about each other's countries is balanced and free from politically inspired hatred and distortion.

We should let the ordinary citizens of every country, by the thousands and tens of thousands, travel abroad for business or pleasure and see that there are good hosts to receive them, to help them learn, and to learn from them.

And, I believe, we should do all we can to promote mutually profitable trade in those things which improve and adorn the life of the people.

Examples like these can be multiplied. They apply with special relevance to the Soviet Union and the United States, but ultimately they must apply to all countries. And there is not a country in the world which cannot improve in this field.

The Peace of the Free

I believe such steps as these are steps toward peace, the peace of the free. At the root of them lies a free society's peaceable view of life—a view which is not terrified by things new and strange, which can be a little bit patient about things it doesn't like, which can disagree, even over fundamentals, without coming to blows, because its deepest beliefs are tempered by a certain humility.

We have had enough of systems of thought which cry, "I alone have the key to truth." We have had enough of movements which set out to prove their godlike understanding by dragging fellow creatures through blood and fire. Such things belong to the Thirty Years' War, not to our time. The thermonuclear generation would do better to study the humility of Socrates, who said he was the wisest man in Athens because only he, among all Athenians, knew the depth of his own ignorance.

It would be hard to exaggerate how deeply this great issue of the open society can affect all our destinies. As long as doors remain shut between the powerful nations of the world, the arms race with all its mortal dangers is likely to persist, and the community which the United Nations seeks to embody will remain no better than half-realized. What a price to pay for the pride of ideology!

Sometimes it seems to me, working at the United Nations, that the name of that organization is almost right, but that the verb is in the wrong tense. It should be, if we were precise, the *Uniting* Nations. It was founded to maintain a peace which has never been made. It is not something established and achieved, by means of which we casually attend to little quarrels and difficulties as they arise. It is rather a center of aspiration, a continuous process of wrestling with the seemingly irreconcilable, and a constant straining to break out of those temptingly clear but hopelessly narrow logical systems which drive us apart into a less clear but far wider and deeper logic of tolerance and brotherhood that can save mankind.

How excruciatingly slow that process seems, and how distant that aspiration! But "man's reach must exceed his grasp, else what's a heaven for?" It is not just the dread of war but the yearning for peace and the intuition of brotherhood that can exert the necessary force to move humanity, against all the obstacles of outworn institutions, toward a peace based on tolerance. The movement is glacial in its slowness, but glacial also in its power.

And surely, at some point along the way, it will be necessary for each and all of us—Russians, Americans, Europeans and Latin Americans, Asians and Africans—not only to disarm our armies of dreadful weapons, but to disarm our minds of dreadful fears; to open our frontiers, our schools, and our homes to the clean winds of fact and of free and friendly dialogues, and to have done with those exclusive fanatical dogmas which can make whole peoples live in terror of imaginary foes.

Not in order to save one people or one empire or one system, but to save Man himself, we must act on the truth which our experience makes inescapable: The road to peace in this fearful generation is the road to an open world.

Issues & Items

Sedateness in Advertising? Good stylists that they are, the editors of the *New Yorker* grew a little jaded in 1955 with the superlatives and boasts of advertising copy-writers. It was then that they issued the little booklet that deserves a much wider circulation, *Don't Raise the Bridge, Boys . . . Lower the River,* in which they pointedly but with gentle whimsy urged advertisers to reduce their taste for hyperbole and exaggeration. Last summer, they released a comparison of the frequency with which certain Madison Avenue favorites appeared in *New Yorker* ads during 1955, the year of decision, and 1961. Here's a taste of the results, couched in the magazine's own language:

Category	*1955*	*1961*
"finest"	312	103
"world's best"	281	79
"America's only"	58	13
other improbable nonsense	47	11
total unbelievable statements	698	206

The *New Yorker* concluded that there was a 70 per cent reduction in bombast and offered its thanks to the advertisers. We confess that we find a sign of progress here, too, and wonder how fruitfully widespread the *Don't Raise the Bridge* approach could become.

☆ ☆ ☆

Babies on the March. That cute gurgle from the bassinet has more significance than the warmth it properly awakens in your heart. Most of us have become distressingly familiar with that conservative prediction that if the rate of world population growth remains stable (Note that it needn't increase at all!), then in six short generations there will be one square foot of the earth's surface for each of us, counting the atolls of the Pacific and the snowy slopes of the Himalaya.

Now our own Census Bureau comes along to jar our sensitivities once more. By 1980, less than 20 years away, if our national birth rate remains stable, there will be only about ten acres of land for each inhabitant of the US. If the allotment sounds generous, remember that more and more of us are coming to live in towns and cities, and we are the ones who are going to feel a trifle crowded.

Note the Bureau's dramatic story of our numbers: When Cornwallis surrendered at Yorktown, our population was less than 3,000,000. When the Civil War began, less than 75 years later, it had increased more than tenfold. When we greeted the advent of the twentieth century, our human count had jumped from 32 million to over 75 million. When Pearl Harbor was attacked, there were 132 million Americans who were outraged. Since the election of Mr. Kennedy to the Presidency, not quite two years ago, we have added 7,000,000 noses—approximately the population of Sweden—to give us a thumping total of about 187 million.

In making projections from this remarkable tale of increase, the Census Bureau assumes that birth rates, death rates, and rates of immigration and emigration will remain as they are. It is a virtual certainty that death rates will decline as medicine and public health measures continue to advance. There is no evidence that would justify any anticipation of a decline in the birth rate, and migration factors are of relatively little importance to our national population now. One suspects, then, that the rate of natural increase will continue to creep up.

Obviously, we shall have to build many a school building and educate many a child to a new and crowded way of life over the next half-century. Meanwhile, there may be a bit of grisly enjoyment in the idea that T. S. Eliot was wrong. The world will end with neither a bang nor a whimper, but with a long, collective last gasp, uttered by a race which, as one alarmed demographer has predicted, squeezed itself to death!

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The Unloved Agency. The exigencies of periodical publication are such that this October number of the *Record* is going to press in mid-August. Commissioner Sterling M. McMurrin has just announced his resignation from the headship of the US Office of Education, and we should like to express our indebtedness to him for bringing to this assignment qualities of imagination and intellect that have not been frequent among his predecessors.

More important than Dr. McMurrin's departure (to resume teaching and administrative duties at the University of Utah), however, is the fate and future of the US office itself. According to the *Organization Manual* of the government, it is "the principal agency of the federal government responsible for formulating educational policy and coordinating educational activities at the national level." This noble characterization is unlikely to produce anything more than cynically wry chuckles from anyone who has had much contact with the Office, which is loved of nobody and handicapped, in one way or another, by almost everybody. Congress, which properly insists that the National Institutes of Health generate new lines of research that have hardly been dreamt of when its appropriations are authorized, and which sensibly allows the National Aeronautics and Space Agency to do such things as establish an unauthorized two-million dollar fellowship program, grows testy when the US Office of Education uses its funds to improve a library exhibit at the Seattle World's Fair and suddenly grows adamant and inflexible about the expenditure of funds in only the precise ways that were Congressionally intended when the money was appropriated. Professional associations, including the NEA, seem to have been less than supportive, regarding the Office as a kind of governmental extension of themselves, not as "the principal agency . . . for formulating educational policy . . . at the national level."

Unloved and chivvied by both Congress and the profession, the agency has served primarily as a kind of bursar for federally supported projects, many of which are substantively innocuous, and most of which are outlined with confining care. Internally, it suffers from cabining restrictions of a different kind. The civil service structure is such that when Dr. McMurrin took office, he was able to fill only two top-level positions on a staff of 1,140. The emphasis since 1867 on the collection of statistics has been reinforced by virtue of its being a "safe" kind of enterprise, and there is some feeling even within the agency that this important function should be almost its only one.

One suspects that this state of affairs is a reflection of many things, one of which is simply the absence of any strong convictions in either Congress or the organized leadership of education that the federal role in the educational adventure should be a strong one. Until we really develop on a broad scale the understanding that the ignorance of a child in Mississippi or New York is a pointed object of responsible concern in Texas and Wisconsin, we are unlikely to have an Office of Education that fulfills the promise of the *Organization Manual*. But having a new Commissioner with such convictions might help considerably to enliven our sense of education as a genuinely *national* affair. We frankly hope that Dr. McMurrin's successor will be such a man. Meanwhile, a grateful farewell to the philosopher from Utah!

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Is John Birch Dead? It is well to remember that capital-C Conservatives, like other human beings, can differ markedly among themselves. Not long ago, Mr. William Buckley, Jr., took Robert Welch and the John Birch Society to task at length and with great cogency in the pages of the *National Review*. More recently, the *Review* carried the following terse but communicative two sentences: "George Romney will repudiate the John Birch Society if it supports his campaign for the governorship of Michigan. So will a lot of other people." A corpse is an object that can still cause a good deal of distress and offense, but in cutting itself off from the main stream of conservative thought and conservative programs, the John Birch Society seems now to be rather more dead than alive. We find it difficult to weep over this possibility.

☆ ☆ ☆

That Men May Learn. Just twenty years ago, the total cost of research conducted in American colleges and universities was approximately four million dollars. Today that figure has increased thirtyfold to an impressive tab of $1.2 *billion*. Although the investigations based in educational institutions represent only seven per cent of the nation's total research enterprise, it embraces half the basic research being done in the country.

T. M. STINNETT
National Education Association
Washington, D. C.

Prejudices and a platform

THERE IS A FRAGMENT of an old poem which reads, "And not by eastern windows only, When daylight comes, comes in the light." In each man's house, in each nation's house, there are two major windows. The meaning of life is colored by both. The western window is one of promise, of expectation, of the future; the eastern window is one of history, of experience, of the past. The fullness of life of an individual or a nation is measured by a balanced perspective in the significance of the two. Neither is the exclusive harbinger of human progress.

We are learning the hard way that there are no unilateral, one-track answers to the problems of education. As we sheepishly turn from that feverish and illusory search, there is the awareness that education, like love, is a many-splendored thing.

In education, as with weapons, we have, in a real sense, gone full circle. As someone has pointed out, the ancient boomerang coming back to the thrower finds its counterpart in the nuclear bomb. The bomb comes back in fallout, and its use entails both homicide and suicide.

Total power is forcing total education. Instantaneous, world-wide communication will produce an informational fallout from which no human being can escape. Thus, despite the vehement claim from some quarters that "education for all is education for none," we are compelled once again, as was true in the formative years of this nation, to resume the deep sense of commitment to the magnificent adventure of universal education, and to do so with an infinitely greater sense of urgency.

Universal Tasks

Only now the whole world is impelled to the same task. As yet civilization is only a tiny clearing in the jungle of the world. As yet literacy is only a small patch of light in the darkness of that jungle. For example, UNESCO (*4*) in 1958 reported a world population of three billions and a school age population (5-14 years old) of 550 millions, of which only 300 millions were in school. Thus, only a little more than one-half of the world's children, 5-14 years of age, were receiving any kind of education. Nearly six in 10 of the world's population, 15 years of age and over, are illiterate. The literacy rate by continents ranged from 95 per cent in North and Western Europe to 15 per cent in some portions of Africa.

And in that task here in the United States, a task now vastly expanded in depth and breadth and magnitude, the imperative is to recapture the spirit of confidence that education, properly conceived and properly dedicated, can alter in fruitful ways the lives of human beings through a buoyant faith in the powers of trained teachers.

The recapturing of these attributes is made infinitely more difficult now by new mindsets and by a cluster of new and complex factors in our society. The new cynicism has infiltrated our thinking and diluted our faith. We have tended in these latter years—and this is especially true of our intellectuals—to take on the mental colorations of the Old World. In this perspective, optimism and confidence are marks of naivete if not of illiteracy. Affirmations are bourgeois affectations. Negativism is the new religion. To berate the present, fear the future, and reject the hereafter are marks of the "genuine" intellectual. These are, of course, concomitants of repeated failures in human relationships. Thomas Griffith has succinctly warned of the fallacy of such cynicism:

> It was simpler in the nineteenth century, when so many massive tasks confronted us—wildernesses to be settled, slums to be torn down, poverty and malnutrition to be conquered, illiteracy to be overcome. If some of the ardor that went into attacking these evils was too expectant, if enthusiasts believed that literacy would make men enlightened, prosperity would make them unselfish and education would make them virtuous, we can be grateful for what, less than the dreams, was achieved (*2*, p. 165).

The new challenge is to be dissatisfied with less than the dreams, to have faith in the proposition that the "saving remnants" of the human race may be the human race itself instead of a tight little isle of Dons dedicated to education as exclusively the instrumentality for replenishing their self-perpetuating group. Indeed, survival for our society may rest as much with the salvage of the one-third of our children who constitute the disadvantaged as it does with the children of the high-culture groups.

Critics and Easy Answers

Two broad developments, of confusing connotations, stand athwart this need. The first is the incessant pounding of a motley array of critics who wittingly or unwittingly have effected a tragic diminution of confidence in the power of teaching and in the promise of education itself.

The answer to this onslaught is the pause and regrouping—and I characterize it as no more than that—of the now scattered and inarticulate forces that would make of teaching a distinctive, competent, and respected profession, and of education an irresistible power for good in men's lives.

If education is too important to be left to teachers, to paraphrase a fetching modern shibboleth, it is certainly too important to be left to those who don't believe in it. This paraphrase is, of course, a corruption of the original epigram from the French, who, it may be surmised, gave it up without a struggle. One of the continuing quips in Washington is that the reason for such an extraordinary turnover in the Office of the Secretary of the Department of Health, Education, and Welfare is that it is almost impossible to find either a Democrat or a Republican who believes in all three.

The second development, of mixed parentage and virtue, is the incredible galaxy of easy answers in education which too many Americans have apparently accepted at face value. For a decade now, we have been caught up in a nightmarish avalanche of denunciation of the processes of education and gratuitous proffers of sure-fire remedies, miracle drugs, and alluring shortcuts, all in the name of educational progress.

All of this has ended up in the latest

of all educational slogans, "Excellence." Its image is as ubiquitous as Big Brother. Everywhere, one hears, reads, or is beguiled by subliminal projections of this pursuit. If we can just have excellence in education, we have got it made. Everybody is for it—laymen, teachers, schools, colleges, universities, and even some students. With all the unquestioned unanimity, one wonders why it doesn't become a reality overnight. The only realistic answer is that just wishing doesn't make it so. The American people, perhaps above all others, are enamored of an idea with breathtaking connotations, of translating the idea into a slogan, and of worshiping the slogan as an abstraction, as a satisfying substitute for the reality of implementing it.

Of course, no thoughtful person can quarrel with this objective. The aim must be excellence in any system of education—excellence in individual achievement, excellence in standards of personal conduct and tastes, and in moral responsibility. The quarrel arises over the sometimes weird proposals for attaining this goal and over the varied and sometimes distorted meanings of "excellence."

Fear vs. Imagination

What has happened to us—in education at least—is that we have come upon times dominated by fear rather than the power of constructive imagination—fear of Russia and fear of our own potentials. We are impelled to worship excellence in education for the wrong reasons.

There is a dream of excellence all mixed in with gimmicks and gadgets to cut the cost of education. The critics of methodology generally come out by the same door wherein they went, with shiny new panaceas, brightly garbed in newer and flashier forms of methodology. Actually, these are economy-size packages which cost more. This is wrong because it is a mirage. This is wrong because the taxpayers often have been persuaded that they not only will not be sued for nonsupport of the public schools, but they may look forward to receiving quarterly cash dividends from them.

The mania for speed reading has some advocates proclaiming the goal of a 10,000-word-per-minute rate. And programed instruction, now a $100 million business, has some pupils mastering a normal full-year course, so I read, in a week with time left over for a couple of sessions of the twist.

The defense industry-military establishment complex, which President Eisenhower warned the nation about in his Farewell Address, has so cleverly scared us out of our wits that federal money for education can only be voted in the sacred name of national defense. This is niggardly support of education for the wrong reason. It is a dangerous departure from our traditional educational emphasis upon the individual. It is wrong because history teaches well that a nation that conceives of the individual as a tool, a weapon, a resource, is likely to end up by treating him as such and no more. It is wrong because, pursued to its logical end, it fosters the preeminence of *The Child-Buyer* philosophy in education—the notion that the nation's Wissy Joneses, through some miraculous dipsy-dos called tests or electronic measures, can identify the few geniuses who, having had lavished upon them all the glamorized trappings of education, will somehow save the multitude by bringing forth new missles, new satellites, new instruments of power. The ironic question of one little boy to another is appropos at this point: "What are you going to be when you blow up?"

This approach is wrong because the real war in which we are engaged is in all probability not that of nuclear annihilation (no nation can afford that risk) but one of political and economic competition. The prime consideration in this kind of war is the development of the full potentials of all our people. We cannot win it without mobilizing education and those in education for this end —from the nursery school through the graduate school. We cannot win this war with the continued wastage of those culturally deprived and neglected children in the slums of our great cities and in the neglected and isolated rural areas. This vital human salvage job will require an educational overhaul in curriculum, methodology, and teacher attitudes and attributes so great as to stagger the imagination.

Education Yet for All

There is no easy answer from either end of the spectrum of controversy. The one-track curriculum is not the answer. The vocational trade-school is not. There is an anecdote, perhaps apocryphal, that illustrates the latter contention. Back in the 1920s, a member of the staff of the Detroit schools was analyzing the marks of the fifth grade children in the system. He came across the cumulative record of Joe Louis, whose name at that time meant nothing. Observing the universality of Fs year by year on the record, the official wrote on the card, "This boy should be taught to do something with his hands."

The trouble with that advice now is that if a youngster can't be taught to do something with his head, the teaching of the hands is futile. The upgrading of the job situation has been that drastic. Too, the dropout rate in the vocational school tends to range considerably higher than that in the academic school. Thus, those who have contended that intellectual development is the prime purpose of the schools have a valid point. But such a concept must be applicable to all normal children and not a few.

The fetish of national testing, with the lure of scholarships, often is a cruel affair with few winners (1 in 500 in one national contest) and many losers, the student playing the pawn in institutional struggles for prestige. This may appeal to the advocates of rigor and the advocates of the philanthropic concept of education, but it is a distorted quest for excellence.

It is wrong because the authoritarian drive for competition in education, in which a few survive and are dubbed successful and the non-survivors are judged failures (perhaps because they have not had enough practice in test-taking), makes of education a vicious kind of warfare. To the victor goes the marks. This may be pleasing to the egos of teachers and professors, but there are hidden and devastating cankers. Many children are compelled to skip their childhood and adolescence. If the English system, as is often alleged, tends to produce stutterers, ours, if this rat-race continues, shall surely tend to produce an abnormal number of warped, frustrated lives.

Certain prestige colleges, skimming the creamy top one per cent of high school graduates, are now giving serious consideration, it is reported, to taking only the top one-half per cent. One wonders why they don't go all the way and take none, thus achieving that non-teaching nirvana so ardently desired by some faculties. They then would be free to sit and contemplate, lonely on a peak in some academic Darien.

Slums and Dropouts

Extreme emphasis upon the selective approach contributes to the inertia regarding two of our vast interrelated problems of education in this country, the slum schools and the dropout student. When will this rich nation realize that the inhabitants of our slum schools in the great cities are fugitives from slum schools elsewhere? And when will this rich nation realize that it need not and cannot tolerate slum schools anywhere? When will we drop our obsession with survival of the fittest long enough to realize that our dropouts become an infinitely greater drain on our resources than our total spending on education? In this decade, 26 million young people will enter the labor market. Ten million of these will be dropouts; 7.5 million will not finish high school, and 2.5 million will not finish elementary school. Counting the difference in lifetime earning differentials of college, high school, and elementary school graduates (and I realize this is a very rough measure), the loss to the nation of this decade's dropouts alone will aggregate some $400 billion, almost twice as much as we will spend on all education in the decade. But this economic loss is microscopic in relation to the incalculable human cost of frustrated, wasted, rejected lives.

Dr. John W. Gardner (*1*), who, perhaps more than any other American, has articulated the need for excellence in education, has eloquently rejected the unilateral approach. He has written,

> A conception which embraces many kinds of excellence at many levels is the only one which fully accords with the richly varied potentialities of mankind; it is the only one which will permit high morale throughout society. . . .
>
> In the intellectual field alone there are many kinds of excellence. There is the kind of intellectual activity that leads to a new theory, and the kind that leads to a new machine. There is the mind that finds its most effective expression in teaching and the mind that is most at home in research. There is the mind that works best in quantitative terms and the mind that luxuriates in poetic imagery.

Now a Platform

Now that I have enunciated a prejudice or two, I suggest a platform. It is a platform without any glamorous, quick solutions for the complex educational problems that face this nation. It is a platform which, in my judgment, will enable us to build on the great advances in the processes of education made in recent years—advances in updating content, in enriched goals for children with gifts, in improved methodology, in a higher caliber of teaching, and yes, in the wise use of technology.

The Number One plank in my platform is to recapture the flaming spirit of faith in the extraordinary powers of ordinary people. This means something bigger and broader and more persistent than the sporadic and ephemeral renewal of the "liberal hour" in education. It means irrevocable dedication to the thesis of the potential improvability of man—the dedication, so pronounced in our early crusades for popular education in this country, which we seem now, momentarily, to have lost, a dedication which now flares in other areas of the world.

At the heart of this first plank is a concept of excellence for our *total* school population. The drive for special attention for the above-average student was a timely protest against neglect by schools geared to the average. But in our zeal to remedy this weakness, we are neglecting the members of two other important groups. First is the creative child, the divergent thinker which our achievement tests, so geared to middle class norms, do not discover. So this precious talent is being ignored to an alarming degree. The second is the disadvantaged child (something like one-third of our school population) who simply does not learn well in our schools as presently operated or with teachers whose cultural backgrounds and preparation often impel them to reject such children. The great challenge of our schools in the future will be to find the curricular adjustments, cultural enrichments, and the motivation of understanding teachers to enlist these two groups in the pursuit of excellence.

This means pushing the revolution which earlier in our history broke the encrusted mold of conformism and roteness in education to new, broader, and richer horizons. It means pushing beyond the mastery of a given set of knowledges to the meaning of it, the interrelatedness of it. It means advancing to that level of learning where there is recognition of the universal kinship among all human beings. And above all, the revolution must be extended to involve the learner's personal commitments to values which lie at the core of a good and sensitive society. If this nation goes down, it will be as much the result of education without allegiance to a system of enduring values, education so tolerant of all values as to imply equality among them, education so colorless as to deny the validity of any commitments by the individual.

Such a revolution is far beyond anything we have yet witnessed in education, or even envisioned, but the imperatives of the new situation here and throughout the world cry out for it. This demands an equally drastic revolution in teacher education.

Profession of Teaching

The Number Two plank, irrevocably tied to the first, is that teaching is a profession, with the unique components and commitments and preparation that we associate with that classification. There can be no compromise on this plank without abandoning the first. It took the colonies and the burgeoning states a long time to learn this lesson. From 1642, when Massachusetts made the first gesture toward establishing common schools, the hopeful doctrine that teachers for them would be automatically supplied from some mythical pool of the well educated endured for two centuries. The prestige institutions then, as too many do now, viewed this need with indifference or contempt. Recruits for the common schools all too often were winnowed from the poorly educated or the castoffs of society, and they so retarded the movement for the education of every man's child as to force society to found the normal schools. If it had not been the despised normal school, some other plan would have had to be invented; otherwise, the idea of universal education would never have progressed beyond the dream. This separateness was not unusual. Virtually every profession, almost every new discipline, has had first to begin apart from the main stream of higher education and to fight its way into grudging acceptance among the academically respectable. Many are now viewing the imminent disappearance of the state teachers college as a repudiation of the professional concept in teacher education. Actually, precisely the opposite is the case. Teacher education is assuming its rightful place among the respected professional endeavors of higher education.

Professional education, however, is different in at least three aspects from all other forms of education. First, it has a specific purpose. Its content and application are oriented to a specialized service to society to which an individual has committed himself. It does not leave to happenstance the cultivation of those qualities and characteristics which a crucial task assigned by society demands. Professional preparation can never be a left-handed, incidental, accidental business for the institution of higher education, for teaching or any other professional endeavor. Second, professional education deals with the total person, with the changes in that person essential to serving a trusteeship for society. And third, professional education demands not only knowledge as evidence of power, but performance as well.

Liberal Profession

Actually, much of the heated debate about professional education *vis à vis* liberal education is phony. It entails such sophistries as the notion that a liberal subject is any one taught in a liberal arts college, that a professional course is any one offered in a professional college, and that never the twain shall meet. It is based upon the phony and misleading litany that the teacher must be a broadly educated person. To be sure he must. But he must be more, as a physician or a lawyer or engineer must be more. In fact, the teacher must be more broadly educated than any other of society's servants. His general education, which we have mistakenly assumed should be the same as that of any other educated person, must really be broader and deeper and more extensive. His specialization must likewise be broader, deeper, and richer, with ability to adapt and to relate to new knowledge coming up on the horizon and to new knowledge not yet known. And as Alfred North Whitehead (*3*) said of teaching and the teacher, "Knowledge does not keep any better than fish. You may be dealing with knowledge of the old species, with some old truth; but somehow or other it must come to the students, as it were, just drawn out of the sea with the freshness of its immediate importance."

To these ends, the teaching profession is now driving vigorously for universal acceptance and enforcement of the five-year preservice program of preparation. Actually, what will evolve is a six-year program. The five-year preservice regimen will equip the beginning teacher for initial service in the form of a full-time, fully paid internship in the sixth year. Having had professional preparation, including student teaching, in the five-year sequence, the beginning teacher will pursue the internship year on an apprentice certificate and as an integral part of the teacher education program. This proposal will be called an impractical dream, as was the drive of the profession a little more than a decade ago for the minimum of the bachelor's degree for all beginning teachers. But it will come to pass as rapidly as has that other dream.

It would be too categorical, and it would be unfair to leave the matter stated so bluntly. That we have had a confusing array of approaches to the professional preparation of teachers, with an inexcusable proliferation of trivia and an incredible mixture of slogans and shibboleths unsupported by research, is obvious. Perhaps these are inevitable in the evolution of any new profession. Moreover, we have been hypersensitive to valid criticisms and too defensive about many indefensible procedures. The inevitable modification of these mindsets will, in no substantial way, alter the essential character of positive, purposeful programs of teacher education.

Divergence Welcome

At one point we have been inflexible, I think, in refusing to make provision for admission of the deviate from the prescribed patterns of preparation and licensure. There are, we all know, some people with extraordinary experience and backgrounds who make superb teachers although they may not have pursued the prescribed regimen of preparation. The great reluctance here, I know, is apprehension about deriving appropriate measures for the admission of such deviates and the possibility of abuse. A competent and imaginative profession, however, can solve this pressing problem, difficult though it is.

The third plank in my platform is the imperative that the teaching profession must be in solid charge of managing its own professional business. We cannot continue the chaotic diffusion and diversity of controls of education, amounting almost to anarchy, lest our cherished local autonomy give way by attrition to the "man-on-the-horse" philosophy, implemented at the national level by a handful of self-elected regulators. We have for too long tried the total management of public education by politicians, pressure groups, and voluntary experts. The time has come to try balanced controls by the profession and the elected representatives of the public.

The greatest threat to education here or anywhere else in the world is that it may become an adjunct of big government or big business or big labor or big agriculture or big right wing or big left wing. Each would use education and teachers for its own purposes, but always under the aegis of nobly phrased causes. Wherever this has happened in the world, it has diminshed the power of education, usually warping it into a distorted instrumentality. That could happen here.

There are two hemispheres of concern in education—public concerns and professional concerns. But the profession by its own timidity has failed to assume its proper responsibility for the latter.

Standards and Sanctions

Professional autonomy means vesting in the profession itself substantial controls over standards for admission to teacher education, standards for guaranteeing the quality of teacher education programs, standards for admission to practice, standards for continuance in practice, and the criteria and machinery for expulsion from practice. It requires legal enactment of professional practices acts, vesting these powers in the profession. It means the establishment of prerequisites for membership in professional organizations. Moreover, the profession has to exercise these controls through both legal and professional sanctions.

The professional standards movement, by which the profession determines its own destiny through the application of professional and legal sanctions, is the most effective means of achieving status and adequate provisions for the welfare of teachers. Here is the answer to the drive to divert teaching from a profession to a craft. The enforcement and observance of standards, the provision of professional working conditions, job equity, professional salary scales, and fringe benefits can all best be achieved by these means rather than by the overt use of power tactics. What sanctions? Foremost is the legal right to control admission to practice through rigidly applied standards of licensure by which admission is restricted to those who have met the standards of competence set by the profession. The application of this legal right will strike down the economic hatch which is resorted to each year in the issuance of almost 100,000 counterfeit certificates under that doctrine of sweet reasonableness called the teacher shortage. Likewise, it will counteract the tendency of some school systems to "save money" by hiring cheaper beginning teachers with substandard preparation. The public then would be compelled to pay the going rate for professional services or to do without such services. Presently, professional bodies in 47 states have broad advisory powers regarding these matters, and in 11 of these states, the bodies are established by law. But the advisory function must be broadened, leaving only the veto in extreme cases with the lay state boards of education.

To buttress this basic approach, there is a cluster of professional sanctions that can be and eventually will be used. The first is the universal application of national accreditation to all institutions permitted to prepare teachers, placing a floor of quality under preparation programs. Presently, this procedure is applied to nearly 400 teacher education institutions which prepare at least 75 per cent of our new teachers. In time, graduation from such nationally accredited institutions will be prerequisite to admission to practice through licensure and to employment in the schools. These sanctions are essential to the profession's eventual posture of guaranteeing to society the competence of its members. These are not radical proposals. Their use is virtually universal in all other professions, and they are generally accepted as reasonable and valid. Moreover, most of these sanctions have been used by higher education, in varying degrees, for a half-century now.

Alternative to Strikes

Then there is the sanction of withholding services to a school system which persists in violating the profession's standards, refuses to provide a climate of professional working conditions, and fails to treat members of the profession as true professionals. There are many precedents for the use of this sanction. It is not a strike. It does not abrogate a contract, and it does not terminate services to children during a school term. Its use simply says to a school district that full-fledged members of the profession will not accept employment therein in succeeding years unless and until specified conditions are corrected. It has been used effectively by several state education associations and by the American Association of University Professors.

To make the withholding of services tenable, it must be accompanied, as I see it, by an accrediting process in the hands of the organized profession. By this I do not mean accrediting in the usual sense of accrediting for the transfer of credit. I mean putting the stamp of approval or disapproval by the profession upon a given school district as a place where a professional climate obtains or does not obtain. As I visualize it, every district would be automatically accredited, assumed to meet appropriate conditions, until by its own actions it proves otherwise. Only when overt violations occur would censuring be applied. The violating district would then be listed as unaccredited until the specified conditions were corrected. Such a sanction must be applied with great wisdom and restraint and is applicable only in flagrant cases. But used, it could be a powerful instrument for the enforcement of decent conditions for superior educational services.

To obtain fair use and application, it would be necessary for the profession to develop criteria by which a given school district could evaluate itself on national norms and in terms of the best existing practices.

The time has come, in my judgment, for the profession to seek the legal right to discuss with, negotiate with, and enter into agreements with school boards regarding salary schedules and other working conditions. Such a legal right would bar the strike as a weapon but would establish effective machinery for settling disputes through educational channels. This legal right can be secured in one of two ways: (a) by formal action of a school board establishing this policy or (b) by state legislation. Doubtless, the first will be the predominant procedure for some time. As a matter of fact, some boards have already taken this step, and many boards have been observing the principle without the adoption of a formal policy. But state legislation will come gradually.

The drive for professional autonomy and the application of professional and legal sanctions which I have attempted to describe are essential to the preservation of a free and competent profession of teaching. They must be developed and applied in the public interest. The alternative is abandonment of the free, voluntary association of professionals, unattached to any particular segment or power group in American life. If that alternative should prevail, it follows as inexorably as night the day that free education, in the sense of the free market place of ideas, also is abandoned.

A Common Faith

I have set forth a prejudice or two and a platform. Regarding the prejudices, they may be as invalid as most prejudices are. Regarding the platform, it is not an easy one, but I believe it tenable and sound. It is based, of course, upon the assumption that this nation cares about human beings and will rally once again, as it did in its beginnings, to the full nurture of the potential of all its people.

The platform assumes also that the internecine warfare in higher education over the education of teachers for the lower schools can be and is being ended. It must be postulated that every segment of higher education has a sincere commitment to the objective of high-quality teachers for our schools at all levels and to the quest for genuine excellence in the preparation of teachers and in the fruits of their services. It must also be postulated that ways can be found, through a continuation of the emerging partnership, to reach these indispensable goals. The time must come when, if a high school teacher of science or mathematics or history is incompetent in his field, the responsibility will be placed where it belongs—in the appropriate academic department. There must be an end to the profitless name calling and absurd stereotyping on both sides of this controversy. There must be an end to the snobbery, the presumed superiority of this or that discipline over others, this or that teaching level over another. To seek articulation of education at the several levels in terms of mere tinkering with curricula is an idle exercise unless there is also an increase among teaching personnel of mutual sympathy, understanding, and assistance. The evidence of progress toward such a partnership is not conclusive, but it is impressive.

The gravity of the need for effective articulation at all levels of education will be heightened in the years ahead. As certain as we can be of anything, we are now at the threshold of attacks upon higher education, the violence of which will probably surpass those directed at the public schools in the last decade.

In resisting the easy answers and in driving toward enduring solutions to the complex and multiple-faceted problems of education ahead, the opening lines of this presentation, with an addendum, are germane:

> And not by eastern windows only,
> When daylight comes, comes in the light;
> To the east the sun rises slowly,
> But westward, look!
> Already the land is bright.

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Readers on the Record

TO THE RECORD EDITOR:

What has crept into the psyche of the American educator? It seems that defeatism and rhetorical evasiveness have dimmed the clarity of his purpose and the perfection of his vision. Why has he abandoned the canons of education philosophy to embrace the promised land of mechanized teaching?

The flood of writings on the subject evince almost consistently a vacillating vagueness and reveal the educator, in the most responsible quarters, as becoming increasingly unsure of his own tenets. There is no fight in him. To declare, "ETV is here to stay, let's make the best of it," is sheer acquiescence to those who wish to make of education a Morse code system or an industry, rather than a sanctuary for the flowering of the human spirit.

Certainly, the television medium cannot be lightly dismissed. To use a tool is one thing, but to be ruled by a tool is another. The pathway of the unfettered mind, from the earliest years to the realization of the higher wisdom, is incompatible with the concept of mechanization. The educator himself must have sufficient conviction about this, so that he may engage in outright combat and *lead the way.*

VIOLET AND JOSEPH L. ANDREWS
New York, N. Y.

TO THE RECORD EDITOR:

You and your readers may be interested in knowing that the TC *Record* has been subjected to critical reading by over a hundred students in my courses—with ratings for the *Record* ranging from "good" to "excellent." Its diversity, its readiness to deal with controversy, its sparkling array of contributors are much appreciated. These readers would commend you and your staff for implementing those purposes cited on the inside cover-page of the *Record.* Graduate student Harold Rollins has summarized his appraisal as follows:

> I am repeatedly impressed by at least three factors. The *Record* probably packs more ideas into each column inch than any other professional journal I have ever seen. It stimulates my own thought on contact, and leaves me thinking long after I have read the last word.
>
> The selections hang together and interrelate in such a way as to reinforce or throw new light upon one another. It is almost impossible to cite a particular selection without referring to at least one and usually several of the others.
>
> Dogmas are out of place in the *Record.* Repeatedly the authors strike out in new directions, or bring new lights to traditional materials. They are not afraid to do so, and the *Record* has the courage and imagination to provide them a platform.

The *Record's* usefulness in class, incidentally, is probably not the least of the reasons for Mr. Rollin's positive response.

Best wishes
PHIL LANGE
Teachers College, Columbia University

The *Record* is eager to publish readers' letters of from 300 to a maximum of 1,000 words, written either in response to notions expressed in its pages or as commentary on other matters of educational concern. Your ideas, clarifications, and rebuttals will be welcomed, and while only a few may be printed, all will be read with deep interest and appreciation.

JOEL H. HILDEBRAND
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The battle for basic education

DURING MUCH OF MY LIFE, I have been a sort of private guerilla fighter in the battle for basic education, but in September, 1958, I received a commission. I was appointed by a Joint Interim Committee of the California Legislature as a member of its Citizens Advisory Commission on the Public School System. A legislator characterized the commission as "the most representative, talented, and conscientious group of people ever gathered on one citizens' commission."

Our final report was rendered after two years of intensive study. The two houses of the legislature then unanimously adopted a concurrent resolution, quoting the Commission's statement on "The Objectives, Duties, and Responsibilities of the California Public Schools," and declared it to be "particularly valuable for the consideration and guidance of the people of the State" and one "which will serve as a guidepost to administrators of education at all levels in the State...."

Commission Goals

Among the paragraphs quoted in the concurrent resolution are the following:

> The primary objective of the public schools should be the fullest development within the capability of every individual to think and act effectively through the mastery, by each student, to the extent of his ability, of the skills, knowledge, thought, and appreciation which embody the major achievements of civilization. They are mainly language, literature, art and music, history, geography, government, mathematics, and natural science. The school, in cooperation with the family, church, community, and other educative agencies, seeks to develop individuals who think and act according to the highest ethical standards. . . .
>
> We regard a competitive spirit, within a framework of mutual respect, cooperation, and regard for the rights of others, as an integral part of our social structure—one which is just as desirable in the classroom as on the athletic field. The school should foster in each student the desire to excel or at least to do his best. Examinations, grading, and reports are essential so that each student may know his own powers and limitations. . . .
>
> Although "life adjustment, social adaptations," and similar purposes are desirable, they are not primary goals. The school has neither the chief responsibility nor the means for dealing with all aspects of personal development. It cannot perform its primary function adequately if its efforts are widely scattered. . . .
>
> The school cannot serve as a substitute for the influences of the home, church, and community, nor should it be expected to do so, but it can supplement and complement them in developing ideals, loyalties, and character. . . .

The commendation of these principles by the legislature gives them the status of public policy. They have already been endorsed by many local school boards and administrators.

The Commission addressed a number of its recommendations to local boards and administrators, others to the State Board of Education, and several very important ones to the legislature.

The Opposition

The particular battlefield on which I have done most, though not all, of my fighting is California. But the same struggle goes on in other states, and what I have to report can serve to inform and, I trust, to encourage the members of a nationwide audience. The prime requirement for dealing with an opponent is intelligence. I use that term both in its primary meaning and also in the one I learned in the Army. In the latter sense, I wish to report on efforts by opponents to impose upon the schools of California something that is far from basic education as defined by our citizens' commission. Its main source was Teachers College, Columbia University, whence it spread into schools of education throughout the land and thence into public school officialdom. Its nature is to be seen in utterances and practices by its protagonists.

The *Bulletin of the Council for Basic Education* reported that the EdD degree was recently awarded by Teachers College, Columbia, to a candidate whose dissertation bore the title, "The Nature of the Sports Page in Relation to Inter-Collegiate Athletics." Michigan State University, according to the same source, announced a thesis on "A Study of the Personality Differences Between a Group of Women Who Had Participated in Sewing Classes in an Adult Education Program and a Group of Their Friends and Neighbors Who Had Not Participated in Any Adult Education Activities."

An official expression of it is to be found in two huge volumes published by the California State Department of Education, one *A Teacher's Guide to Education in Early Childhood*, 1956, and a companion work for later childhood in 1957 (*1*). The sort of guidance they contain is illustrated by the following excerpts:

> The experience curriculum places emphasis in education on the continuous and wholesome development of children. This curriculum is in contrast with others which emphasize subject matter mastery or certain aspects of intellectual growth rather than the wholesome development of the child's total personality.
>
> By responsibly thinking through group problems and acting upon conclusions found by the group to be for the good of all, the chidren are building patterns of ethical democratic living.
>
> When the child enters school his great task is to make himself one of a social group of his peers. He succeeds to the extent that he learns acceptable ways of participating as a member of the group.

The purposes preached throughout these "guides" represent dogma, not knowledge—dogma for which there has been no popular mandate, dogma that is not to be found in the classics of American history and thought. "Adjusting" children to docile conformity to the "ethics" of a group is the first aim of a dictator. It should have no place in American schools.

Individual in Confrontation

A "group" may engage in activities in which a person should *not* participate. A juvenile gang is not a group to decide wisely "what is for the good of all." Instead of "adjusting" students to docile membership in whatever group they happen to find themselves, we should equip them to cope with their environment, to wrestle with difficulties, to adjust environment, not be adjusted to it, to be willing to stand alone, if necessary, for what is right and true. It is a poor education that does not fit a man to be alone with himself. As Arthur M. Schlesinger declared (*8*),

> If we are to survive, we must have ideas, wisdom, courage. These things are rarely produced by committees. Everything that matters in our intellectual and moral life begins with an individual confronting his own mind and conscience in a room by himself.

Boris Pasternak, who had good reason to know what he was talking about, put these words into the mouth of one of his characters (7):

> The main misfortune, the root of all the evil to come, was the loss of confidence in the value of one's own opinions. People imagined that it was out of date to follow their own moral sense, that they must all sing in chorus, and live by other people's notions, notions that were being crammed down everybody's throat.

One of the most destructive effects of the cult of "togetherness" is revealed in a study of "The Creative Person" by Donald W. MacKinnon, director of the University of California Institute of Personality Assessment and Research (*6*). It states, in part:

> The creative person is, almost by definition, a nonconformist. His nonconformity lies in the realm of ideas, however, not necessarily of behavior. . . . The (Institute) has found that he is not usually the emotionally unstable, sloppy, loose-jointed Bohemian. The truly creative person is simply independent. . . . It must be reported that creative people claim more than others do that their childhoods were not entirely happy. . . . It and other findings do mean, however, that parents should not force too much "togetherness," that they should not prevent the child from turning in on himself. And efforts to produce "well-rounded" children, made often by both parents and schools, are not conducive to creativity.

Can you imagine what Beethoven's symphonies would sound like if he had been first "socialized" in a school which had insisted on teaching him "acceptable ways of participating as a member of the group"? Gilbert Lewis once remarked that many of the world's most distinguished men were those who had been so fortunate as to have escaped the ordinary process of formal education. Indeed, one shudders to think what Beethoven, Michelangelo, Faraday, Leonardo da Vinci, Galileo, or Darwin might have become if they had been victims of teachers like one in San Francisco who complained to a mother that her 10-year-old son thought of himself as an individual instead of as a member of what she called his "peer group."

Teacher Opinion

There is abundant evidence that the imposition of the "life-adjustment" theory of education by officials of the California State Department of Education through its publications, its control over the selection of textbooks, and the certification of teachers and administrators, and the preaching of these doctrines in the teacher training institutions, have repelled many able college students from becoming school teachers and driven competent teachers from the profession.

The following testimony before the commission by Kenneth Robinson, who spent eight years teaching science and mathematics in four California high schools, is typical of much more:

> Behind the lack of foundation are the philosophies of modern educators. When a definite error in the subject matter being taught was pointed out to an educator, a teacher received the reply, "That doesn't matter. Remember, we are teaching the whole child. We're teaching attitudes. These are more important on the elementary level than subject matter."
>
> My answer to them is that they have failed to do either. By the time the high

> school receives the child, he is often missing the element of independent thought or the fundamentals of reading, arithmetic, and language with which to think. They have missed the prime target, the child's mind. As for attitudes, the most common attitudes I see are (1) "Why work? I'm already a success!" This from ones far behind, and (2) "Why study? This fellow sitting beside me doesn't study and he's been passed every year along with me." This from the capable students. A completely false set of values is being sanctioned by the schools.

Eloquent testimony to the same effect was offered by another teacher, Dan Jackson, president of the San Francisco Federation of Teachers:

> Let me first speak of the philosophy behind this climate. It is called "life adjustment" or "whole child" education. It is often explained by the cliché, "after all we shouldn't be teaching subject matter but children." It seems to revolve around the thesis that practically anything is a learning experience and is therefore justified. It seems to contend that it is more important to experience than to learn, that attitudes are more important than knowledge. It is a belief that well adjusted individuals are more important to a society than learned individuals. It is a philosophy built on the concept that basic communication is more important than ideas. It is a philosophy that places teaching methods above the subject to be taught. We seriously question the concepts on which this philosophy is based. It is not that we are against life adjustment or the whole child, but the child will become an adult and should have a firm body of knowledge upon which to make his adjustments. It is not that we are against communication; rather, we are for something worthwhile to communicate. It is not that we are against attitudes, but that we are for sound reasoning upon which to base attitudes. It is not that we are against teaching methods; rather, we are for a sound body of knowledge to which our methods can be applied.
>
> This philosophy of education rationalizes its existence on the premise that it is democratic in nature, that it is mass education that can be absorbed by all. It claims to train for citizenship. We question that an educational philosophy that fosters intellectual mediocrity is actually democratic in nature. Democracy itself is nurtured on the intellectual growth of its citizenry. This is true merely for the domestic maintenance of a democratic society. We, however, must be concerned with more than mere domestic maintenance of democracy. We must provide the leadership of a learned citizenry in an area that far transcends our national boundaries. Our educational system must provide that learned citizenry.

Credential Requirements

Candidates for teaching are indoctrinated with this so-called "philosophy" of education in teacher training institutions. In the state colleges of California, originally normal schools, prospective teachers have majored in education, not in subject matter. One of these colleges, more or less typical of all, recently offered 317 courses in education, not including psychology (77) or sociology (46), but it offered a total of only 14 courses in four languages, and only 10 in physics (day and night).

Citizens of other states might find it revealing to examine the offerings of their teaching training institutions. I read of one which offers 351 courses.

These inflated offerings illustrate the Hildebrand Law, which asserts that the number of courses offered by a college department is inversely proportional to the intellectual distinction of its faculty and the amount of basic knowledge in the field.

What California high school teachers think of the vast proliferation of courses in education is indicated by replies to a widely circulated questionnaire (*2*).

One question was:

> Revision of California's teaching credential structure is currently under study.

> Some plans call for increasing and others for decreasing the requirements in education courses. Which do you favor? Answers: Increase, 87; as it is, 267; decrease, 1,034.

Furthermore, these teachers agreed with the declaration of our commission on primary goals, 1,109 to 220.

Four of the five major recommendations of the commission to the legislature were adopted. These include specifications of basic subjects in the curriculum and a system of statewide testing so that citizens may have some measure of the quality of instruction. The most important of these bills is one prescribing a major or minor in an academic subject for teacher certification and requiring high school teachers to be assigned to the area of their major or minor, with exceptions only as specifically authorized by the school board. It prescribes procedure whereby persons of outstanding qualifications may be certified without taking so-called professional courses. It prescribes academic majors and five years of classroom teaching experience for administrators.

Coaches and Concepts

The pertinence of this last provision is evident from a finding on the prior school experience of 112 California district high school superintendents, reported in a thesis presented by E. W. Dils in 1953 to the Stanford School of Education. "High school teacher" was listed 58 times; "teacher-coach" was listed 79 times.

There are ex-coaches who, by virtue of personal qualities and self-education, have become satisfactory principals and superintendents, but such exceptions do not justify a widespread practice of employing principals who are less well educated than their teachers.

The most effective means of control in the hands of the California State Department of Education has been the system of state-adopted and state-printed textbooks for elementary and secondary schools.

In *The Wonderland of Science*, the state text for grades seven and eight, the student may read that the axis of a Sperry gyroscope, set spinning while pointing toward the sun, will continue to point toward the sun regardless of the motion of the earth.

Elsewhere there is a picture showing how the atmosphere would appear if its components were separated into layers. There is depicted one vertical mile of carbon dioxide, 21 miles of oxygen, and 78 of nitrogen, up to 100 miles, where the atmosphere abruptly stops.

Again, we read that men ascending in a space ship find themselves becoming lighter and lighter, until they can walk up the walls. I asked a witness who shared responsibility for adopting these books if he had ever tried walking around on the sides of a swimming pool under water. That was too much for him, as it would be also for the author of the book.

One more illustration: It is from a report by a State Central Committee on Social Studies composed of 22 administrators of one sort or another but only five classroom teachers (*9*). The report virtually ignores any content of geography, history, civics, and economics; instead, it lists 196 "basic concepts"—"marked," it claims, "by the high quality and depth of thought that characterized the concepts." The following samples from among many illustrate their profundity. For instance: "Space and time form a framework within which all historical events can be placed."

How that will enlighten a student! Again: "Productive services tend to get paid what they produce."

What do you suppose that means, if anything? Again: "The culture under which an individual is reared and the social groups to which he belongs exert great influence on his ways of perceiving, thinking, feeling, and acting."

Did anything so deep as that ever occur to you? Again: "Individual or group organization or disorganization reflects the presence or absence of coordinated, integrated behavior."

This declaration is obviously incomplete. In order to express its full significance it should have read, "Individual or group organization or disorganization reflects the presence or absence of coordinated or uncoordinated, integrated or disintegrated, behavior or misbehavior."

Social studies are commonly a dump for all sorts of matters that may be "social" but are not "studies": e.g., "sophomore problems," "dating and grooming," "bachelor living." A disturbed parent wrote to me, in part, as follows:

> Our son, who attends the seventh grade in — school, has to participate for two 50-minute periods each week in cooking and sewing. We have complained and discussed this with the school principal and with the superintendent. The latter hinted broadly that as foreign born citizens, my husband and I naturally do not have an understanding of the American philosophy of life or even the right to criticize. It is felt by our "educators" that cooking and sewing for boys are essential to help make "good Americans."

These two administrators must be under the impression that the cold war is to be settled by an international boys' sewing bee. This case should help to make clear why school principals and superintendents should be reasonably well educated. Past criteria for the administrative credential obviously are not enough.

School vs. Home?

I have recently been in touch with parents in a community near San Francisco who are not happy about the curriculum in the junior high school that their children attend. The school has not been able to teach English well enough to serve as a basis for teaching any foreign language; it offers, therefore, only an "introduction to foreign language." But undeterred by this failure, the school nevertheless feels competent to interfere in the conduct of pupils' homes. It uses a "Junior Life Adjustment Booklet," published by Science Research Associates in Chicago, from which children are taught how to "rate" their parents. A father said to me, "I have been rated by my children, and I did not score very well. What do I do?" I said, "I know what I would do. I would try to find some parents to join me in making such a row that the school board would require the superintendent either to desist and apologize or be fired."

One of the chief measures used by the Nazis, the Fascists, and the Soviets to soften up their people has been to destroy parental authority. The apparent incapacity of most of our citizens to become effectively indignant in the face of such an outrageous attack by the school upon the home does not promise well for resistance by the American people to totalitarian control, whether from within or from without.

One of the most distressing features of the struggle is that instead of being fought on both sides with the weapons of dispassionate reason, certain schoolmen and professors of education fight with mudballs. I have an amusing collection of specimens. In one, Hutchins, Griswold, Hildebrand, and Bestor have been called "brilliant and well-informed, if not well balanced" (*4*). A professor of visual education referred to "men like Hildebrand, who have absolutely no qualms about their omnipotence." I doubt that he meant omnipotence, because if I were omnipotent, he would not be a professor of education. But even if I were omniscient, I would not have qualms about it.

Row in San Francisco

A committee of eight university scholars, selected by the presidents of Stanford and California Universities, was employed by the Board of Education of San Francisco to conduct a curriculum survey. Its report was objective and impersonal. But officials of the California Teachers Association, in which non-teaching administrators play a large role, issued, in conjunction with organizations of administrators but with no organization such as the San Francisco Teachers Association, a scathing denunciation (*3*) of the report (unsigned), with such statements as,

> The SF Report cannot by any scholarly definition be called "a study." There is no evidence of research design, of careful collection of data, of checking to verify conclusions. This disdain bears evidence of an academic pettiness and snobbery which is out of keeping with their professed respect for knowledge and search for truth.

Thus, the office men for organizations of school administrators lecture eight university scholars on how to do research!

Seven professors of education in a state college hurled their missiles, saying,

> The eight "experts" were not expert in the matter about which they were writing, and did not bother to make themselves so. What they offer combines opinionated arrogance with a naiveté that is downright pathetic.

Their blast goes on to tell who are the true experts and how research in education is carried on.

State Superintendent of Public Instruction, Dr. Roy E. Simpson, offered some sober admonition to schoolmen such as these:

> Research has not produced absolutes. Indeed, in many cases it has merely added to the controversy. Let us recognize this once and for all and abandon the sensitivity to debate and criticism which impairs our leadership in education. . . . Those who find change difficult or debate distastefully had best repair to some other tasks. . . . Equally disastrous to leadership . . . is negative rebuttal with generalities. In recent months, we have witnessed several such answers to public criticism of our schools. The answers generally pleased school people, but completely failed to convince the major audience—the public.

This wise advice was not heeded by his own division chief for elementary instruction, who asserted at the same meeting that,

> The public must hear and consider the voice of the professional educator over the professional critic or the chronic griper. It must be ready to recognize the findings of valid research as different from the half-truths and prejudiced philosophizing of the self-anointed experts.

Criticism from outside the ranks of the professional educators was dismissed as "cacophony."

What disturbs these persons most is the unwillingness to accord them an exclusive status as "experts." They say, "You don't tell your physician how to treat your illness; you should not tell us how to teach your children." Ah, yes! But they overlook the fact that if you are dissatisfied with your doctor, you fire him and hire another. The same properly applies even to a doctor of education. Many of them, indeed, should be compared with hospital managers rather than with successful practitioners. The real experts in education are teachers who strengthen the minds and characters of their students.

Citizens the Key

Please note that I have made no sweeping statements about schools, teachers, school administrators, or professors of education. They vary individually, as do chemists, all the way from poor, through fair and good, to excellent. Where schools are anything less than excellent, the remedy is in the hands of citizens. Our commission declared:

> We have observed that where local school board members are aware of their responsibilities and duties; are responsive to the will of the citizens of their district; where citizens . . . are interested and alert to the problems of education, a superior educational program is more likely to be maintained, and the people of the district are more likely to support their schools adequately and enthusiastically.
>
> Conversely, where school board members are not aware of their responsibilities and duties, abdicate to administrators the performance of such responsibilities and duties, or permit school administrators to set policy and generally dominate the operation of the schools; where the citizens are lethargic and complacent and permit their wishes to be brushed aside as unimportant, there is general dissatisfaction with the system; the educational program tends to be inferior in quality, and the citizens either reluctantly give or withhold adequate support of the school system.

The decision between education and "adjustment" as the proper aim of public schools is one of public policy, not one for "research"; it should be made by representatives of the people, not by civil service "experts." In California, the people are represented at the state level by the state board of education, whose members are appointed by the governor; the "experts" are the members of the state department of education, a civil service bureaucracy. In the past, complacent boards of education have often permitted these civil servants to set educational policy. Governor Edmund G. Brown has drastically changed that situation by filling vacancies on the board with strong, competent members. The present board, under the presidency of Thomas W. Braden, a newspaper publisher, is applying higher standards than heretofore in such important matters as the certification of teachers, the selection of textbooks, procedures for testing school performance, and the content of curricula.

Education and Freedom

Citizens who complacently tolerate anything less than excellence in the education of their children are taking chances with our very survival as a free people. In 1940, when we were threatened by militant Nazism, I said (*5*), in words that are pertinent again today,

> If freedom to search for truth . . . is to survive here with us, in almost its last stronghold, we shall have to support it with all our resources, material, mental, and moral. . . . Whenever people become soft they become the prey of tougher barbarians.

After saying something about toughness of body and character, I continued,

> But there is another element of national strength that has been stressed far less than most others . . . namely, active intelligence, well fortified by knowledge. Faith may lead to delusion and a stout heart but to stubbornness unless guided by intelligence. . . . National strength requires not only strong muscles and sound characters but clear, vigorous minds. Education which produces these makes an essential contribution to national strength —one, fortunately, which is of value alike for peace and for war, alike for the welfare of the state and of the individual.

The ideal of "active intelligence well fortified by knowledge" must continually be defended against militant crusaders, demanding that schools be subverted from education to some sort of "adjustment." I have quoted the purpose announced officially in a teachers' guide to adjust "the total personality" of each child to a pattern that a particular educator would regard as "wholesome." (His own personality would, of course, be the pattern.) Another teachers' guide asserted that "the integrated program and the integrated curriculum are but a means to an end, the integrated individual in the integrated society." Hitler and Mussolini "integrated" their own people for a while with considerable success, but they were stopped before they got to us. Now, men in Moscow and Peking, with the aid of a few stooges in the United States, have taken up the task.

There are also minority groups within our borders whose members harass school people with demands that children be indoctrinated with the peculiar dogma of their group, masquerading, perhaps, as "Christian" or as the "American Way of Life." All such demands should be resisted. We should not permit public schools to be diverted from the primary objective of "the fullest development within the capacity of every individual to think and act effectively through the mastery, by each student, to the extent of his ability, of the skills, knowledge, thought, and appreciation which embody the major achievements of civilization."

A citizenry that is fully determined not to lose the cold war must elect some of its best and wisest members to boards of education, members who will not abdicate to professional administrators their own responsibility for educational policy, members who will insist that their schools do their utmost to educate every student to the limit of his capacity to become an informed, competent, strong, responsible individual.

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The educational process through a student's eyes

"'TIS EDUCATION FORMS the common mind: Just as the twig is bent the tree's inclined."

Alexander Pope's bit of philosophy is, in essence, as true now as when it was written, but in today's world of precision and automation, we are understandably more concerned than was Pope's generation with the way in which the educational system works to shape the students that are a part of it and the exact degree to which they are influenced by it. With this interest and concern in mind, I, as a very recent college graduate, was asked to record my impressions of the educational experience I have just completed and to offer any evaluative thoughts I might have accumulated after spending sixteen years as a pawn in the educational process.

This task, once I set myself to it in earnest, was a very difficult one, and I'm certain that my comments and attempts at critical analysis as set down at this stage in my life are far different from the evaluation I might make if called upon to perform a similar task five or ten years from now.

It is very difficult to appraise critically what one has been an integral part of for many years. Not only is it hard to find faults in what has been such a familiar phenomenon for so long, but it is, I think, even more challenging to find aspects to praise.

There are several reasons for this. First, I have not yet had an expanse of years over which to view my experience so as to become relatively detached from it. Secondly, because I completed my elementary and high school training in one school system and then, subsequently, completed all four years of my college training at one institution, I do not know enough about other schools to use them for purposes of comparison. Hence, other criteria had to be selected in order to have some basis on which to survey my educational experience.

Some Criteria

Paging through the April, 1962, issue of *The NEA Journal* (2) I found what I was searching for. In an article entitled "What is a well educated man?" a group of noted Americans—among them educators, scientists, statesmen, and religious and cultural leaders—were asked to give their definitions of a well educated person in today's world. Their answers presented me with some standards with which I could decide whether my experiences had indeed developed me to be at least mildly representative of what could be taken for the well educated woman.

Of course, each of the distinguished personalities who answered the questions posed them by the NEA had varying ideas of what constitutes an educated man, but from the many definitions, I have compiled what I feel are the most necessary and often repeated requisites for the well-educated man.

1. He has an open mind and allows reason and scholarship to guide him in his decisions. At the same time, however, his emotions are alive and sensitive to the world about him.
2. Such a man has some understanding of himself. Aware of his prejudices, he also knows his own limitations and is critical of his assumptions. In other words, as Ewald Turner, NEA President says, "He has the vision to know where he is going and where he has been."
3. Aware of what he is *not*, a well educated man has cultivated his curiosity and has learned where to go to find the answers to many of his problems. He realizes the boundaries of his knowledge and knows where and how to find the experts he wants. Information received from them he then digests critically and uses constructively. Hence, the pursuit of knowledge becomes not a goal in itself but, rather, a way of life.
4. He understands the society and the world in which he lives and is alert to his responsibilities to all segments of society. Thus, he accepts his jobs with grace and performs them with all possible integrity and ability.
5. The well educated man has developed a philosophy of life that is grounded in an intellectually grasped set of values. Hence, his life has meaning, and the way is paved to the achievement of future goals.

Thus, being well educated does not necessarily mean that one has assimilated a required set of facts and figures over a period of years. The definition goes much deeper and includes personal characteristics that are most difficult to attain. It becomes obvious too, that our schools do not turn out mass numbers of what are, in the truest sense, well educated men and women. From the descriptions suggested by noted people, it becomes obvious that the truly well educated man or woman is the result of many more years of effort and thought and real enlightenment than can come from a mere sixteen years of formal schooling.

The Educated Vision

Schools today must be judged, then, not by the numbers of products turned out of their doors, but by their ability to teach their students what it means to be truly well educated and by their ability to direct their students' efforts toward the accomplishment of this most valuable goal.

Therefore, I do not judge my educational experience on its ability to make me well educated, but analyze it in the light of how it attempted to instill in me the embryonic ideas of what being truly educated means. To put it in another way: I judge my experience on how it worked to make me aware of what I am *not.*

My elementary and high school training was received in the Wisconsin Rapids, Wisconsin, city school system. Wisconsin Rapids, a wealthy paper manufacturing city of about 16,000 people, prides itself on excellently maintained schools financed by high real estate taxes. Teachers' salaries are lower than the state average, but in most cases, the quality of instruction is maintained at a high level anyway, owing to other advantages teachers find the city offers them once they have settled in it.

The sixteen years of my formal education were both interesting and rewarding. From the beginning, I liked school and everything associated with it. Thus, I had little trouble making good grades, and I found plenty of opportunity and time to participate in all other activities the schools could provide. This sustaining enthusiasm was an important factor in making my educational experience a vital one.

Parental encouragement and interest was another most important consideration. Without it, I doubt whether any student—no matter how intelligent he may be—can get from the schools as much as they have to give.

In my early schooling at the elementary and high school levels, I learned about myself and my abilities. I began to appreciate both what it meant to work hard and be successful and, upon occasion, what it meant to work hard and fail. A band director taught me what it meant to set one's aspirations high and then practice and strive hard to attain those seemingly remote and impossible goals. An American history teacher portrayed what it meant to love studies. His efforts to make history "live" gave me an appreciative understanding of the offerings of the past. A biology teacher taught me the necessity for good study habits and the rewards for grim persistence, and a fourth grade teacher encouraged me to exploit my varying aptitudes at every possible opportunity.

Though these particular instructors are the ones who stand out in my mind as exceptional, I had other good teachers too, ones who loved their subject matter and the students they were teaching. Remembering their encouragement, I can not help feeling that, for all criticism or praise heaped on the schools, the essential element in the excellent school is always the excellent teacher.

Bare Spots in Review

In spite of the generally high level of instruction I received while in elementary and high schools, I nevertheless can see, in retrospect, some noticeable lacks. Perhaps the biggest failure of my earlier experiences was their failure to teach me the steps necessary to learning reasoning and critical analysis. Too much time and effort in the elementary and high school years was spent in memorizing and accepting. Too little time was devoted to criticizing and tearing apart. Some students attained this highly valuable faculty, but their numbers were too few and, at that point, I never felt that I was one of them. Thus, I became too acceptant and relied too much on the opinions of others when determining my attitudes. It is a difficult habit to break, and this failure to be able to reason through problems and situations always created difficulties for me in mathematics, logic, and science courses.

Another failure of my elementary and high school instruction was its inability to help students develop a certain philosophy of life. I realize, of course, that this is not a responsibility that rests directly on the school. Parents, religious institutions, and even the whole of society must take the larger share of the burden. However, schools fail to instill in the students the necessity for thinking about themselves and the way they as individuals want to be. Too much time and effort is wasted, I feel, on career orientation—that is, what specific occupation the student should assume and how he should go about obtaining it. Students need much more than that, particularly in the high school years, a time when they are trying hardest to know themselves and what is expected of them. Group pressures are strong and become worse all the time, and unless students are encouraged to develop a philosophy of life then that is grounded in values that are good for them at the time, they will never know later, when their thinking is supposedly more mature, how to formulate values that will serve them as adults. This is especially true since so many students, once they leave high school, receive no more formal education. They go through life without even the most elemental knowledge of what philosophy is, let alone the ability to formulate one for themselves.

It becomes obvious, therefore, that my earlier educational experience would probably have been more valuable, not only to me but to all concerned, if the schools had instructed us in the elements of philosophy and psychology with perhaps less emphasis on field hockey and the social graces.

A third failure of the high schools (a failure that is shared, I confess, by the colleges and universities) is their inability to awaken students to their responsibilities as citizens of their society. It is becoming more and more common for a very few to do all the thinking and all the work because a strong and widely distributed sense of initiative and pioneer spirit is lost from the scene.

The schools do teach about the American society at all levels and about our role in the world community. The facts, figures, and pictures are there, but in many instances no real understanding results nor does any sense of urgency develop. Students tend to sit back and let the other person do what must be done, feeling that, in a world as large and complicated as ours, what they could do would make little difference anyway. Thus, the teenager is encouraged by his parents and by the schools to be too much concerned with self and too little concerned with others and his society.

In consequence, an unhappily large number of the present generation, with plenty of encouragement from parents and teachers—people who are eager to give their youngsters what they themselves never had—spend a staggering amount of money on a staggering variety of items. With such abundance at their fingertips, the students forget their responsibilities, and as they get lazier and lazier, their interest in everything beyond themselves lags.

Of course all American youth are not represented by this pessimistic picture, but initiative and sympathy for others is alien to those who are never encouraged to realize that they have responsibilities beyond themselves.

Improvements in Evidence

It would be completely unfair to state that the schools themselves are unaware of their failures and, hence, are doing nothing as a remedy. Evidence of improvement is abundant right around me. In recent years, by following the activities of my younger brother and sister at both the elementary and the high school levels of instruction, I have seen, even with my relative inexperience, a large degree of improvement.

My sister has received much more effective training in composition and literary criticism than I did in my English classes. Perhaps this improved instruction is due largely to greater enthusiasm and talent on the part of her teachers and their increasing use of improved methods, but whatever the reason, I have discovered, somewhat to my chagrin, that her literary interests as a high school senior have a depth that mine have only recently attained. She will go to college trained to write more effectively and concisely than I ever could at her age, and she will have, moreover, a greater ability to reason through the problems posed to her by her college teachers.

My brother, too, has received the fruits of improved and more comprehensive instruction. A longer school day allows him to elect one more subject than

I could as a high school freshman. At the same time, he profits in his Spanish classes from work in a modern language laboratory, and in mathematics, he is taught by an entirely different and more effective approach than was used by my teacher only seven short years ago.

When quizzed about my university experience by interested friends and relatives, I am sure that I almost overwhelm them with my enthusiasm. I say this because I feel, in all honesty, that the four years I spent at the University of Wisconsin were, to date, the best years of my life.

In a sense, it is sad and perhaps a little wasteful that we go to college when so young. At seventeen or eighteen, many students are yet so immature that they tend not to appreciate their opportunity to be educated by some of the greatest minds in our society. Yet there is an advantage in youth, too. Young minds are supple, and most are enthusiastic; so the college experience serves as just the thing necessary to develop the fledgling student into a thinking citizen who can and will make real contributions to his community.

My learning experience at the University was like none I had ever known. For the first time in my life, I was introduced to people from practically every country in the world. For the first time, I was required to understand, digest, and organize vast quantities of complex information. For the first time, too, I had to make many decisions on my own, earn and manage my own money, and study strictly on my own initiative.

The Thrill of College

All this was thrilling and most challenging to me. Armed with a resolution to make the very most of every type of experience the University had to offer, I can now look back on four years of fun and work that led me to the achievement of that goal.

A college education has, I feel, two responsibilities, each complimenting the other: preparation for an interesting and satisfying life (a general education) and preparation to earn a successful living (a professional education). A good college course must provide the means to satisfy both aims.

Perhaps one of the best programs at the University of Wisconsin, giving freshmen and sophomores an opportunity to fulfill these purposes, is the Program of Integrated Liberal Studies. Offering a general education through a specially designed, closely knit sequence of courses, ILS could be described as an introduction to Western civilization, emphasizing broad divisions of knowledge rather than special departments—the humanities, the social studies, and the sciences.

As a freshman, I was privileged to become part of the ILS program. In it I enjoyed the advantages that accrue to a small, compact group in the University studying together a common pattern of intellectual material. I enjoyed, too, the wisdom of some of the greatest teachers the University has to offer. These men and women, feeling that a good beginning is necessary for college entrants, unselfishly devote their time and talents to the first and second year students. It is people such as they who have given many successful college students their start and who have helped many, like myself, to find real and lasting joy in their studies.

At the University I also found the joy and satisfaction that comes from being an active participant in one's community. Extracurricular activities on any large university campus are bound to be staggering in number and scope, offering as they do a club or seminar for practically every interest or ability. It is also true that many students may get so involved in these enterprises and their social affairs that they quite forget their true purpose in coming to college. By a judicious selection of a few valuable activities, however, the student may find, as I did, that this phase of his college career is, in itself, a vital learning experience.

As president of the women's governing body of the University, I gained new insight into others (not to mention the insight I gained into myself and my prejudices), and I became acquainted with far more students and teachers than I otherwise would have. In addition, the task of representing 5,000 young women students, with their many and diverse problems and desires, helped me to realize that there are many sides to every issue and that there are also numerous and often successful ways of tackling practically every problem.

Cultivated Curiosity

Thus, from the University of Wisconsin I received many gifts—gifts that are a very significant key in helping me to become truly well educated. Perhaps the greatest gift I received was that tool essential to every well educated man or woman—a cultivated curiosity. This acquisition has made me realize more than ever before that a college education is not intended to be an end in itself, nor should the colleges attempt to teach students everything about a specific field (even if such were within the realm of possibility). Rather, the schools must strive to teach their students where to look for the answers to the never ending problems they will inevitably meet, and at the same time, these same institutions must somehow cultivate their students' abilities to deal with later discoveries.

Thus far I have described my University experience in the most glowing terms because I must admit that I am most highly impressed with the University of Wisconsin and its ability to adhere to the ideals it has always maintained: freedom of speech, a high degree of academic freedom, and the right to challenge tradition. But, I would be amiss if I did not point out, at the same time, what I have recognized as inadequacies.

College students in general often lack real determination to get out and do something constructive for their communities and for the nation as a whole. Discussion and criticism of policies and decisions made at all levels of government are debated with great heat and spirit, but the majority of students shy away from actually working for the ideals and values they *say* they hold in high regard. What better evidence of this "I couldn't care less" or "Let Joe do it" attitude could be cited than an incident that occurred during recent student elections at Wisconsin. Running on a platform that called for the abolition of all student government at the University, one of the candidates for president of the student body polled approximately one-quarter of all votes cast. His votes came not from students who were genuinely concerned with student government and the reputation of the school, but from a group of students who ordinarily pay little if any attention to the efforts of student government but who saw, in this particular situation, a chance to be clever and cute. There is no place for such antics in government of any kind, and it makes me shudder to realize that many of these same students will also be voting in state and national contests.

Security and Mediocrity

College students today are also too secure—in every phase of their lives. Because there seems to be a place for even the most mediocre, an unfortunately large number of potentially excellent students do not feel impelled to goad themselves into working beyond what is required of only the most average person. Jobs are plentiful when school is finished, so rarely do these students have to concern themselves with the eventual necessity to compete with more talented individuals in order to obtain an interesting and rewarding position. Lulled by this sense of security, the ex-student, as an alumnus, rarely changes his attitude about what he should expect of himself. Soon the ultimate goal in life becomes not that of becoming a well educated person, but simply that of achieving a comfortable home and an adequate income.

It is difficult to determine just how much blame can accurately be placed on the colleges and universities for the large numbers of pampered youth evident in our society. It can truthfully be said, however, that these institutions of higher learning are keenly aware of the problem. In an effort to discourage the lazy and pampered student from adorning its campus, the University of Wisconsin has, like other schools across the nation, become more and more selective with entering candidates and has inaugurated strenuous testing programs that measure attitudes and aptitudes as well as general intelligence. At the same time, it has raised academic standards in all courses and is now providing a special honors program for the more gifted and diligent individuals. Such inaugurations are definite improvements and will, I am confident, create a new breed of student at the college and university level. Eventually, the youth who can not accept responsibility and challenge will, it is to be hoped, be gone from college campuses. In their place will be a large army of devoted and challenged students who realize that our society has no place or need for the lazy and pampered.

In concluding this attempt at evaluation, and upon judging my educational experience as a totality, I must admit, with all honesty, that in spite of occasional failures on my part or occasional lacks on the part of my schools and teachers, my experience has been a most rewarding, exciting, and inspirational thing. I am most enthusiastic about it and am already eagerly anticipating the time when I can continue formal schooling at a postgraduate level.

Three staff members of *The Carnegie Tech Quarterly* very adequately captured the essence of my feelings when they wrote, as part of a free verse poem entitled "This Is College" (1), the following verses:

> Was it in that week before Commencement,
> or while I sat in the hot white sun,
>   a prickle of sweat
> under the black bachelor's gown,
> or in those few empty days at home?
>   Anyway,
> All at once I knew a little bit about why.
> I was out from under the suffocating
>   mass of knowledge;
>   there was a direction to go,
> a way to do it, and I knew the way.
>   I did know, had learned.
> There was the door, the handle to turn,
> the latch to lift—
>   and all those years I had been finding,
>   acquiring, filling my pockets with keys.
> Already the doors are opening. Through
>   how many shall I finally pass?

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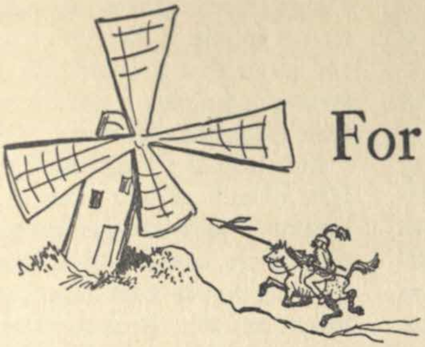

For the Record

On exporting revolutions

The great jet, gleaming on a new tarmac under an African sun, was discharging its cargo directly onto the brawny shoulders of a long line of half naked porters. Here was one of the striking symbols of our time, defining in its cogent way the character and problem of emergent nations in a shrunken world. The speed and efficiency of modern technology, which make a mockery of our older concepts of time, space, and the sacred barriers of country and clan, can be acquired through the simple act of purchase. In the light of intense and sometimes desperate competition between the United States and the Soviet Union, the two primary vendors of modern miracle machines, credit is not hard to come by. But how are the knowledge, the ideas, and the values of the *people* to be brought into some humanely creative congruence with the modernity of their machines? In what does such modernity consist?

Such questions are by no means limited, of course, to the "new" nations of the earth. There is a sense in which they are even more urgent, if in subtler ways, for the highly developed countries and their governments. But the issues take on a peculiar significance for Africa, Asia, and Latin America when they are read against the usual way of analyzing the needs of so-called underdeveloped lands.

Typically, development is conceived in economic terms and thought of as a function of four basic elements: capital, technical knowledge, properly trained manpower, and an adequate plan for the maximum use of the first three. Given such a definition, it follows that development is to be sought through the construction of Five-Year Plans (or ten-year or twenty-five-year plans) entailing three broad objectives. One is the encouragement of technical assistance from highly developed countries; a second is the institution of measures to increase domestic savings and capital from both local and foreign sources; the third is the sending of men abroad for technical training. Although such a sketch oversimplifies the nature of efforts at development, it is reasonably revealing of the fundamental logic involved. It is a persuasive logic, too, except that it is deficient—potentially tragically deficient—in its attention to certain grim facts which are violently relevant even though they are not essentially economic.

First, there is a set of *social* facts that must be faced. In many nations of the three great continents on which underdevelopment is a pressing concern, the distributions of wealth and power favor tiny minorities, leaving the huge masses of the population not only blighted by poverty and ignorance but without significant incentives to orderly change. More efficient techniques of growing wheat lack appeal for a tenant farmer who perceives them as simply ways of swelling the coffers of his landlord, and learning the methods of damming rivers for increased hydroelectric power is unlikely to be well motivated if laborers see only greater wealth for a remote and specially advantaged few of their countrymen. A Latin American correspondent, a distinguished university official, recently expressed both hope in the Alliance for Progress and skepticism about it, writing that the test of the Alliance is whether it can produce "true democracy, not the nominal democracy of bankers and dictators." Within his own frame of reference, he was simply stressing the blunt fact that economic development is meaningless in today's world unless it is intimately associated with a growing sense of social justice and a more widespread emphasis on the value of the individual personality.

Second, there is a set of *governmental* facts to conjure with. With certain exceptions, new nations all through Africa, Asia, and Latin America have evolved only the most unstable, eccentric, and rudimentary forms of national government. *Coup d'etat* may change the personnel in power but leave unchanged the uncertainties and the self-interested character of administration. Yet any development program must be run by a government, and where government is inept or ill intentioned, technical aid and skilled manpower are a bit beside the point. Adequate public administration is a prerequisite to effective economic development, and adequate public administration implies broadly distributed ideas and ideals that provide both the touchstones for judging it and the methods by which it may be achieved.

But there is a third set of *educational* facts of still greater importance, partly because it pervades the first two. In Africa, there are many societies where hardly ten per cent of the people are literate and where scarcely more than one per cent reach the level of the secondary schools. When they achieved independence, the Congolese numbered only about a dozen university graduates. Modern economics simply do not function on such a base, and the unhappy troubles in the Congo are in part a reflection of this educational, not economic, scarcity. It is not just that recent studies have indicated that between 50 and 60 per cent of the gains in productivity in the West during the past 50 years have come from better trained minds, increased research, and a more systematic employment of human intelligence. Other investigations in the United States have shown that outlays for education may bring sharp increments in the purely economic indices of production. The investment of money in education often, indeed, increases national income more than a similar amount invested in more visible capital products like highways and machine tools. It is noteworthy that wherever farmers and workers are literate, they are economically progressive; wherever they are not, they are economically stagnant.

The central point constitutes a somewhat harrowing challenge to the educational missions that have become ubiquitous on the international scene. The export of sheer literacy and technical training is simply not enough. Literacy alone is a little like science: A powerful instrument, it can be used for good or ill; it can make available to men the whole world of knowledge, ideas, and critical thought, or it can make them victims of propaganda. Similarly, technical training is in itself ineffective unless it is bound to a broader notion of education as a resource of freedom.

In what, then, does education for modernity consist? It is defined, it would seem, by two basic domains of concern. On the one hand, it means a significant exposure to the ideas and experience that have made possible the establishment of responsible and stable national governments. This implies vigorous attention, begun early and continued over time, to the role of the citizen as an informed participant in public life and the bases in knowledge and in ideals on which he can make sound judgments about the administration under which he lives and the alternatives he may properly consider in his never ending quest for a better life. On the other hand, modernity demands the development of what Robert Redfield used to call a "concept of humaneness"—a sense of social justice leavened with an unsentimental appreciation of the worth of individual men—and an enlarged notion of one's community as extending to all human groups. The familiarity with "foreigners" that the technology of transportation and communication now makes possible is no longer merely desirable; it is essential as we approach ever closer in the most literal way to Puck's ability to "put a girdle 'round the globe in forty minutes."

But education for governmental stability and for a concept of humaneness can neither be imposed nor can it be accepted on a wholesale basis. Education in these terms entails the processes of discovery and creation, the fresh identification of ideas that widen horizons and the development of new adaptations that are appropriate to the particular and distinctive problems and opportunities that each underdeveloped nation faces. In an important way, the newly emergent countries are fortunate in having the experience of the wealthy and stable West to learn from. But merely to copy the West would saddle them with our vices as well as our virtues and to deprive them of an exhilarating if difficult evolvement of a new and more salutary way of thinking about themselves. Human differences, including cultural differences, are both inescapable and the source of novel contributions to the lives of all of us. When we export education, we ideally send abroad not the blueprint but the opportunity for a people to identify the differences which at once give them a proud identity and a useful place in the family of man.

In short, we export the opportunity for revolution—a humane revolution that provides the human congruence to our revolution in technology.—EJS

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Home of the sound mind: A lost theme in education?

WORKING FOR THE President's Council on Youth Fitness is an amazing experience. It has enabled me to progress from talking to myself about last football season to writing for a distinguished group of educators about a serious national problem. This encourages me to hope that physical fitness programs soon will be considered as basic to the curriculum as such established subjects as literature, science, and history.

Francis Cardinal Spellman of New York remarked recently that "the sound mind in a strong body" has been an ideal of educators since the beginnings of Western culture. Physical fitness is not essentially a controversial subject, although thoughtful people often ask, "How fit? And for what?" Our task is to answer such questions with force and clarity.

Mechanization and Muscle

Obviously, our society has become highly mechanized and urbanized. Many physical chores and activities have been eliminated from our lives. Modern automobiles whisk us to work; automatic elevators hoist us to our offices, and swift jets speed us effortlessly across country that the pioneers required months of grinding effort to cross. Housewives no longer must scrub clothes, draw water from wells, or beat carpets. Modern technology is the major cause of our physical fitness problem.

But try as we may to eliminate physical toil from our lives, we inescapably remain physical beings. In the years ahead, we shall still face tasks which will demand the utmost strength of effort, will, and determination, of body, mind, and spirit. The President has said that our youth must be "fit to learn, fit to understand, fit to grow in grace and stature, fit to fully live."

The shocking fact is that most of our young people are not fit—not nearly so fit as their own ancestors. They are better educated than ever before, and they display a heartening interest in world and scientific affairs. They also are taller and heavier than we were at their age, and most of them are remarkably healthy. But health is not the same thing as physical development and efficiency.

During the last year, a survey of our public, parochial, and private schools was conducted. It revealed that one-fourth of our children are physically underdeveloped, and that nearly half are substandard in strength, stamina, agility, or flexibility. Many could not do one pullup or 14 situps. These are two of the three requirements of a simple screening test of physical performance for 11-year-old boys.

Perhaps the most alarming statistic revealed by the survey is that less than 40 per cent of our school children are participating in daily vigorous activity programs of organized physical education. This, I believe, is where educators have a unique opportunity and responsibility. Forty million of our youngsters are in the school's charge half the days in a year. Teachers and administrators know from experience that overweight reduces their efficiency, that fatigue destroys their concentration, and that weakness saps their determination.

Because our young people no longer naturally develop in their daily routines sufficient muscle tone and heart-lung capacity, I strongly believe vigorous activity programs must become an established part of the daily curriculum.

Program in Practice

Of course, the mere fact that we have 15 or 20 minutes per day scheduled for physical education does not mean that each child gets that much vigorous activity. In many cases, the more physically gifted children engage in play or exercise while the rest—the ones who need the activity most—stand around and watch. The need is not only to institute physical education programs where we do not have them, but also to place more emphasis on fitness in some of the programs we already have.

I hope I am not giving you the impression that I am suggesting physical fitness should be the central objective of education, or that our intellectual and cultural efforts should be diminished. One need not supersede the other, and they are, in fact, complementary. I do not have to remind you that the Greeks, who produced the poetry of Homer and the wisdom of Plato and Aristotle, also founded the Olympic Games. Their legacy to history included the idea that the mind and the body must develop harmoniously.

Happily, this is not a totalitarian nation, and no one can tell our schools what they should do. The President's Council on Youth Fitness can only suggest that they adopt the following physical education practices, which were developed as basic to a sound program with the help of 19 leading educational and medical organizations:

1. A health appraisal for each child to discover correctable defects and determine his capacity for exercise.
2. A physical performance screening process to identify underdeveloped children.
3. At least 15 minutes of vigorous activity as part of the daily physical education period for those in good health.
4. Periodic achievement tests to measure progress and to provide incentive.

The program is outlined in the booklet, *Youth Physical Fitness, Suggested Elements of a School-Centered Program,* which may be purchased from the Government Printing Office, Washington 25, D. C., for 40 cents. As can be seen from the brief outline here, it is not intended to develop super athletes; its aim is to increase the sturdiness and stamina of *all* our youth.

To Live Vitally

One of the real weaknesses of many of our present physical education programs is that often the best facilities and the most highly trained instructors are devoted to those who need them least—the approximately 10 per cent who can play varsity sports. Naturally, I believe that varsity athletics is a rewarding experience for those who have the desire and the physical equipment and skills to compete. Sports serve as a rallying-point for students, faculty, and parents. But they also can be a stumbling-block to good physical fitness programs for those who need them most.

Our need today is not so much for athletes as it is for people capable of living life enthusiastically, vigorously, and enjoyably. A boy or girl who cannot pass a physical performance screening test actually is in no condition to participate in ordinary games, to do his schoolwork without undue fatigue, or to enjoy his leisure time. These are the children we want most to help.

Pilot projects established in several schools across the country at the beginning of last school year demonstrated that dramatic improvement in physical performance can result from daily vigorous activity. They also produced an unexpected result. Many teachers said the children seemed to improve in their academic work, in morale, and in social adjustment. The possibility of such collateral gains deserves systematic study, although they are not, of course, the focus of a fitness program's concern.

Schools and Simplicity

There are several reasons why the Council has chosen to concentrate its efforts on the schools. The schools have long held as one of the major objectives of education the development of health and physical efficiency. Through them, we can reach one-fourth of the population in a most direct way. Equally important, we can speak to educators, who occupy positions of influence and leadership in their communities. Competent teachers, more than anyone except a child's parents, can impress upon him the importance of physical fitness and motivate him to keep fit after his school years are ended.

The minimum program requires very little expenditure of time or money. If you do not already have a gymnasium, a swimming pool, or playground facilities, you can get along without them. Running or simple games and exercises will help keep a child fit. Although well-trained, professionally prepared specialists are desirable, most teachers are capable of administering the simple basic tests and of supervising organized activity periods.

We would, of course, encourage schools to go far beyond these basic recommendations and work toward a program of high quality in health education and physical education. It may be helpful to recall that Thomas Jefferson—architect, founder of a university, author of the Declaration of Independence, and twice President of the United States—exercised two hours each day. Most of us are not as energetic as Mr. Jefferson was. But if he could spare two hours a day for physical activity, our children surely can spare 15 minutes.

There will be, of course, children who will not enjoy vigorous physical activity at first. Some of them may be the same children who do not enjoy reading at first. But, just as they learn to enjoy reading as their knowledge and their reading skills increase, they will learn to enjoy games and other activities as their physical skills, strength, and stamina increase.

The benefits derived from fitness programs are not limited to muscular development. The child who participates in an organized program of daily physical activity can also learn the meaning and value of self-discipline, sacrifice, and fair play. Developing children who can perform physical tasks adequately certainly is not an end in itself, but a means to an end of central value for all of us—the development of the hardy minds, bodies, and spirits necessary to the defense of liberty.

If I may, I would like to borrow from my football background a story to illustrate my final point. The outmanned home team was trailing by 40 points when it gained possession of the ball late in the fourth quarter. The coach shouted at the quarterback to give the ball to the fullback, Calhoun. Instead, the quarterback gave the ball to the right halfback. Thinking the quarterback had not heard him, the coach yelled even more loudly, "Give the ball to Calhoun!" This time the left halfback carried the ball.

The coach was so incensed that he ran onto the field shouting, "Give the ball to Calhoun, you idiot." The quarterback called time out and trotted to the sidelines. "Coach," he said quietly, "Calhoun doesn't want the ball."

The youngster who is not properly prepared sometimes is reluctant to participate in the game of life. But if our children are physically, spiritually, mentally, and morally fit, I am confident that they will join wholeheartedly in the battle in which we are now engaged for the hearts, the minds, and the souls of men.

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Towards scientific literacy

Asimov, I. *The Intelligent Man's Guide to Science.* New York: Basic Books, 1960. 2 vols. Pp. xiv + 853. $15.00.

THE CONDITIONS OF modern life clearly make it imperative that the lay citizen achieve a relatively high level of scientific literacy. Yet the difficulties which stand in the way of achieving and maintaining an adequate public understanding of the scientific enterprise are formidable. The sheer bulk of knowledge relevant to significant public problems and the need for yet more knowledge set a tremendous task for the American educational establishment. The increasing growth of scientific information and thought and the enormous complexity of technical achievement make accessibility to an adequate education in science difficult for both the specialist and non-specialist. Modern science advances through the efforts of communities of scholars with their own systems of communication and with a language which tends always toward greater precision and economy of statement, based on extensive use of mathematics. To join a community of specialists as a contributing participant requires long and intensive training and apprenticeship. To be able merely to keep up with major advances in science and technology and to gain some understanding of what has been achieved also requires prolonged exposure to substantative content, including not only dependable knowledge but also the methods and procedures by which knowledge is obtained and certified. One needs only to glance at the table of contents to Professor Asimov's two volumes to appreciate this fact. Perhaps one of the most serious mistakes which has been made in formal schooling was to underestimate the time required for the achievement of literacy in science, thus delaying serious study of the scientific disciplines until the upper years of the school program. This has had serious repercussions for the recruitment and training of needed scientific and technical specialists and for the appropriate modern education of the non-specialist. That some progress has been made in a more equitable sharing of the burden throughout the school program is one of the more encouraging developments of the past decade.

Schools and colleges can and should greatly increase and improve their contribution to general scientific literacy. But formal educational institutions cannot be expected to do all that is required to develop and maintain this essential attribute of contemporary citizenship. They may lay foundations and erect some superstructure; but it is characteristic of modern science that foundations sometimes shift, and the superstructure is frequently modified and expanded by new knowledge. Substantial assistance is needed from other educational resources, including the mass media and the relatively small group of individuals who have specialized in popularizing science for the layman. The fact that modern life places a premium on nearly everyone's mastering rather extensive bodies of scientific knowledge and technique suggests the need for serious study of ways and means for keeping the public informed about scientific and technical developments, especially those which have special significance for social policy. It may not be out of place here to point out the desirability of creating some type of national commission, charged with a consideration of the whole problem of the education of the public in science and how both schools and the mass media may be more effectively employed to this end. We have scientific advisers and advisory panels for the President and Congress; we also need scientific advisers to the general public.

It is an unhappy fact that the popularizer of science sometimes turns out to be a scientist who cannot communicate effectively or a professional writer who knows too little science. Fortunately, Professor Asimov's guide to science suffers neither from inadequate substance nor inadequate communicative merit. Both a scientist and teacher of note and a polished writer of science fiction and of popular science, Asimov has the knowledge of the physical and biological sciences and the literary skill that enable him to present an accurate and interest-holding account of many of the developments in modern science. Both the volume on the physical sciences and the one on the biological sciences will appeal to any interested reader, whether he is a specialist in a particular field or simply a concerned layman.

In dealing with the physical sciences, Asimov begins with the universe, the realm of tremendous distances and size, and ends with waves and particles, the realm of the exceedingly small. In between are major aspects of the more comprehensible "man-sized" world—the earth and solar system, the atmosphere, and the elements. The majestic sweep of man's knowledge of the physical universe is thus revealed, including some of the exciting frontiers of scientific speculation and research and running the theoretical gamut from classical mechanics to relativity and quantum concepts.

In a similar fashion, the volume on the biological sciences begins not with natural history but with the organic molecule, and it ends with a discussion of the human mind, including such topics as feedback and "thinking machines." The key molecules of life, the proteins, are explained and related to many of the fundamental problems in biology, and the molar analysis is continued in the discussions of the cell, microorganisms, and the human body. In both volumes, Asimov's intention is to carry the reader to the frontiers of physical and biological research, and he has succeeded to a considerable degree.

The two volumes under review are neither encyclopedic nor a survey. Some care has been exercised in the choice of categories and topics to be considered, no doubt dictated in part by Asimov's organizational scheme. His treatment of the selected topics has an historical dimension. Reference is made to the achievements of approximately 500 scientists, many of them intellectual landmarks in scientific history. While this makes a lot of names to keep track of, the intention of the author is to show something of the human side of science. The reader will get a feeling of real men collaborating on a wide range of investigations, and some understanding of how the products of scientific work are often as much a consequence of community effort as of individual brilliance. Also he will get a general picture of the growth of scientific knowledge, a central problem in epistemology. If there is a connecting theme in the two volumes, it is this steady growth in our knowledge about man and the physical and biological environments within which he is encapsulated.

It would be extraordinary if a work of this scope did not evoke in a reviewer some reservations. The two chapters on technology at the end of Volume I appear to be tacked on, brief historical accounts of dubious value. The opening chapter on "What Is Science?" is not very satisfactory as an introduction either to science or to Asimov's own *Guide*. Although it contains some important statements on the nature of the scientific enterprise, it is regrettable that Asimov characterizes the Ptolemaic system as ludicrous and Aristotle's theories of motion as fanciful. Both Aristotelian physics and Ptolemaic astronomy were serious systems and should be judged in the context of their origins. Their centuries-long influence can be attributed to the fact that they were plunged into orthodoxy and sheltered from useful criticism by the major religions of the West.

Asimov's apparent commitment to induction as the logical method of science needs clarification if it is not to mislead the thoughtful reader. He is correct in pointing out the limitations of the *a priori* deductive method, but his emphasis on generalizations derived from observations by inductive logic may distort the picture. A more balanced view is that the complex processes identifiable in scientific investigations involve an interplay of experiment and cognition, idea and observation, each supporting and guiding the other to new ideas and new empirical discoveries by a mental process which cannot be labeled strictly either induction or deduction. In any case, in view of the importance of helping the layman to understand scientific method, the author might have discussed more fully the principles of induction and inductive logic with respect to both empirical facts and logical relations. As it is, it would be quite possible for an intelligent layman, relatively untutored in science, to develop the notion that science is all induction and no deduction —which is simply not the case.

For example, Asimov presents Galileo as an inductivist, mainly responsible for "elevating induction above deduction as the logical method of science." Recent historical studies (*2*) indicate that we should no longer regard Galileo as the founder of the experimental method in physics. It was not through observation (measurements) and subsequent inductive procedures that he arrived at the law of falling bodies. Galileo was the first mathematical physicist in the modern sense; it was *after* he had achieved a mathematical demonstration of the law of falling bodies that he made his famous empirical tests by means of the inclined plane experiments. Therein lay his personal genius and the general distinction between the Galilean and the Aristotelian mind.

The volume on the biological sciences opens with the remarkable sentence, "Modern science has all but wiped out the borderline between life and nonlife." This succinct and dramatic statement not only summarizes recent progress by physico-chemical investigators but also a point of view held by many scientists, in and out of biology. It may be taken as the theme song of modern biology, and that there exists a substantial body of achievement in biochemistry and biophysics to lend it support is attested to by the material presented here. But Professor Asimov would undoubtedly agree that the substantive content of his second volume does not represent the whole of biology. This is not to say that it should. He is within his rights as an author to concentrate on "modern biology" at the expense of "traditional biology," but it is possible that the lay reader may be misled on this point.

The selection of content in the biological sciences shows a bias not unrelated to the present cleavage among biologists. The separation of biology into "traditional" and "modern" is a matter of great concern to the scientific establishment. Asimov is a "modern," which is to say, a biochemist. The roots of the alienation of classical from modern biology lie in the growing accessibility of important biological problems to physical and chemical inquiry. This should be all to the good, not only for biology but also for human welfare, as this fine book makes clear. But the substantial and exciting progress achieved in biochemistry does not provide grounds for washing out classical biology as mere stamp collecting. The case for the maintenance of the integrity of biology as a distinct discipline has been ably put by Professor Barry Commoner (*1*), whose excellent article makes rewarding reading for anyone interested in this controversy within the house of science. As for the dramatic opening sentence of Volume II, it seems conceivable that some readers may interpret it as voicing the goal of modern biology. The goal of biological research is to find tenable solutions at as profound a level as possible to fundamental problems in the study of living organisms. Whether or not this research leads to a confirmation or elimination of the "boundary" between the living and the non-living is irrelevant, at least from a purely scientific view.

As a final reservation, we may call attention to the final chapter, "The Mind." Here the layman will get little guidance for navigating the complicated currents closest to him—the human mind and human behavior. Nearly half the chapter is devoted to feedback and the computer, which the author calls a "thinking machine." It is probably incorrect to say that the relatively few anatomical and physiological notes on the nervous system and the assorted comments on human behavior serve mainly as an introduction to the computer, but it almost seems that way. The volume on biological science ends on a more dramatic note than it started when the author asks in what more glorious way could we celebrate the victory of human intelligence over nature than by passing on our heritage in triumph to a greater intelligence not by controlled genetics, but by creating a superhuman thinking machine. What a tremendous plot for a science-fiction story!

The reservations noted here, however, do not loom large in the face of the general excellence of these two volumes as a contribution to the education of the public in science. The size and scope of this educational task grows daily. Both the scientist and the layman are in a fog with regard to the mutual relationships of science and society. The professional scientist and the man in the street are related and dependent on each other in the modern world. Greater understanding of each for the other is essential to the welfare of both. But the speciallization and fragmentation of science and the complexity of modern life make such mutual understanding difficult of achievement. For the layman, scientific developments seem to occur not too little and too late but too much and too soon. Keeping up with science becomes a losing game. Indeed, it is widely held that only those who can master the higher reaches of physical theory and mathematics can understand what is going on in science. If this pessimistic view is true, then the lay citizen and the professional scientist will move further and further apart, and the scientific tradition will pass into the control of small groups of extreme specialists. Superiority in physical power will then be achieved by those nations who can produce the most super specialists at the earliest age.

This pessimistic view must be rejected. We are not about to enter the age of Abstract Man, but we are well along the road which leads to the establishment of a genuine Scientific Age. As Whyte (*3*) has pointed out, the ultimate concern of the sciences, as always, is the observable events in the three-dimensional world in which man spends his life. No matter how far the sciences may reach into abstraction for special purposes, they must return to the world of man's actions and thoughts in order to deal with phenomena. There are reasons to believe that there will be in the near future a return to the concreteness of basic ideas and understandable fundamentals and principles which will bring the sciences closer to the human person. It is Whyte's view that the sciences are converging; atom, man, and the universe are inescapably and deeply related.

In any case, modern man is deeply involved in the Scientific Age, the essential characteristic of which is the impact and the determining influence of science on the whole gamut of human affairs. Our present situation is not solely one of getting through a recognized educational and social crisis, but of anticipating an indefinite number of crises which may occur in the future as a consequence of the fundamental changes now underway throughout the world—for example, the radical reconstruction of the means of production and the stabilization of population growth. The point of departure for public education is the Scientific Age, an analysis of which inevitably leads the educator not only to science and technology but also to social policy and the desires and basic needs of human beings.

It is not sufficiently understood that the work of the scientist and the engineer is never finished. Not only are they expected to create the new (knowledge and technique) but also to maintain and improve the old. Without the daily efforts of a very large number of scientifically trained and highly competent technical personnel, the whole edifice of modern medicine, communication, transportation, and industry would collapse. In a sense, modern societies have put themselves into the hands of the scientist and the engineer, and once started in this direction, there is apparently no turning back. It does not necessarily follow, however, that the scientist and the engineer should determine social policy. This should remain the job of the "amateur," but every possible effort should be made to bring scientific as well as political understanding into the legislative hall. The legislator (policy maker) and the scientist have everything to gain, as does society, from a mutual understanding of one another's outlook, function, and responsibilities. But in the last analysis, as Representative Edith Green put it, "the crucial ingredient of legislation is social, not technological."

One must gratefully commend Professor Asimov for his contribution to our necessary education in science. It is to be hoped that more and more competent scientists will join those already working through the mass media and the schools to raise the level of public literacy in matters technical and scientific, an essential condition for the victory of wisdom and knowledge over stupidity and dogma. Such a victory, it is now clear, is a straightforward prerequisite to human survival.

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Reviews

Griffiths, D. E., Clark, D. L., Wynn, D. R., & Iannaccone, L. *Organizing Schools for Effective Education.* Danville, Ill.: Interstate Printers & Publishers, 1962. Pp. x + 338. $6.50.

Organizing Schools for Effective Education fills an important need in the literature of educational administration. The authors have focused their attention on the problems of organization *per se.* To this end, the book is divided into five parts covering (1) problems and issues, (2) case studies, (3) job descriptions, (4) informal organization, and (5) organizing the administrative staff.

Griffiths and his collaborators establish a theoretical framework in the first section of the book. They explore the virtues and disadvantages of centralized and decentralized administration which they call "tall" and "flat." While they recognize that the advantages of each of these administrative arrangements for particular circumstances, they nevertheless forthrightly favor the decentralized or "flat" type of administrative organization as they favor line and staff distinctions and decision-making as close as possible to the point of action, unitary control, explicit job descriptions, opportunities for individual development within the organization, and protection of individual rights.

The case studies have been selected to illustrate organizational problems from a wide range of school situations from a small rural to a large city system. Of particular interest is the discussion of a small school district faced with a sudden and very large increase in student population.

The authors have addressed themselves to the old problem of the influence of the informal on the formal organization. They are no doubt correct when they state that very little research has been accomplished on this problem as it relates directly to school systems. It would be incorrect to assume, however, that since Max Weber, sociologists and social psychologists have neglected this important facet of social organization. On the other hand, while this book makes no fundamental contributions to the theory of social systems in this respect, it does provide for the working administrator and the student a number of guidelines, insights, and examples that are extremely useful.

The case history of informal leadership in a single school is particularly good and can be read with profit both by new and by experienced administrators. It explains what can happen when the formal organization cannot or does not respond to the aspirations of a significant segment of its membership. It also develops the idea, frequently ignored, that informal leadership is in part the result of formal organization and relationships. The resulting uneasy equilibrium is probably all too typical of educational bureaucracy.

That part of the book dealing with job descriptions no doubt will yield a number of checklists for those concerned with establishing usable descriptions in their own situations. On the whole, however, this section of the book is less satisfactory than the remainder. This may be due to the fact all too familiar to those who have attempted to describe the characteristics desirable for particular administrative positions. The description becomes so high flown that if it were followed, the job would go unfilled for lack of a candidate who could measure up to it.

Organizing Schools for Effective Education is a valuable addition to the administrative literature. It is clearly written and well organized. While it is focused on the public school system, it is addressed to problems of such a generic order that any administrator or student of administration will find much of value in it.

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Van Til, W., Vars, G. F., & Lounsbury, J. H. *Modern Education for the Junior High School Years.* New York: Bobbs-Merrill, 1961. Pp. 527. $6.50.

Three distinguished educators bring together in this volume a summary of fifty years of junior high school education and a well reasoned description of what they believe to be the best educational practices for the age group from 11 to 15. In light of their considerable experience, the authors point out that youngsters of this age have special school needs which make them particularly difficult to teach if inappropriate methods are applied.

After noting the phenomenal development of junior high schools in the United States, Van Til, Vars, and Lounsbury focus on the marked differences in maturity, talents, interests, social class, religious orientation, and promise for advanced education found among pupils grouped together for their schooling. According to them, the "structured core" curriculum which combines social studies, English, and certain homeroom functions is best able to serve the diverse needs of these students. It is clear from this description that the teacher should take a good deal of responsibility for preplanning and working out assignment details. At the same time, students are encouraged to assume portions of their project planning and evaluation. Many administrators are under the impression that they have a core program when they have arranged "block-time" scheduling. The authors here feel that such programs seldom meet the criteria of a good core organization. For other reasons, they distrust the entirely "unstructured core" program.

This book has qualities which will appeal to psychologically trained readers. By anchoring their views in the goals of junior high education, the authors manage to avoid a dogmatic position. They recognize that the separate junior high school is not a necessity. While teachers need to know pupils better, there are situations where pupils should not be with a teacher more than a year. Teachers are cautioned against interrupting with corrections of grammar or spelling when pupils are doing free writing or speaking. They suggest making a note of the error for use at a later practice session. Teaching machines are viewed as potentially valuable and not disturbing to the pupil-teacher relationship.

To find these good features, the reader, unfortunately, has to exercise a bit of patience. To avoid confirming a common stereotype that books on education are likely to be dull and repetitious, it may be well to read first the good chapter on "Social Realities."

In many instances, the authors have identified possible areas of disagreement. They raise the issues of whether creative writing can be taught effectively in the core program and whether mathematics should be taught in ability-grouped classes. At least two additional questions should be asked. Is it not possible that youngsters of this age group need to experience, in addition to the democratic core program, at least one class organized in a benevolent but nevertheless dictatorial manner? Shared planning is a worthy educational goal, but it is sufficiently uncommon in early vocational experience to suggest that youth need to learn to adapt discriminatingly.

The second question is more serious. The authors make a place in the core program for a fairly large unit on "self-understanding." The obvious challenge is this one: Are junior high school teachers really professionally equipped for this kind of teaching? Or, more profoundly, should not "self-understanding" be deferred until reality orientation is more advanced and impulses are under better control than is typical in early adolescence? May not a premature congealing of the self-concept stunt personality development?

This is essentially a good book. Its few weaknesses are less errors by the authors than a reflection of our limited understanding of the growth processes of junior high school youth.

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Gottman, J. *Megalopolis.* New York: The Twentieth Century Fund, 1961. Pp. xi + 810. $10.00.

"Megalopolis," as utilized in this distinguished and penetrating study by Professor Jean Gottmann of the School of Higher Studies in Paris, refers to the "unique cluster of metropolitan areas on the Northeastern seaboard of the United States." These areas stretch from southern New Hampshire to northern Virginia and from the Atlantic shore to the Appalachian foothills. No other section of the United States has had such a concentration of population, resulting in not only density of people but also density of activities, both of which have resulted in a supremacy in politics, wealth, and cultural attainments. The author has bestowed a kind of labor of love upon this selected region, holding that it even presents a personality which has been evolving for three centuries and which has exerted a deep influence on the rest of the United States as well as on western European cities. The great cities of the area, with their extensive suburban satellites, have succeeded at times in giving the impression of having stamped the national character and the modal personality for the whole country.

There is little doubt that Megalopolis excels in many locational advantages, its fine, deep harbors making it a hub of international relational activities and a crossroads for commercial enterprises. Hence, it has assumed preeminent economic importance. Stressed always in the study by Gottmann are those human dwellers who have taken advantage of the assets and overcome the natural liabilities of the region; the conquering spirit of man was a first essential. These cities have been held responsible for at least one-fourth of the growth of the nation's urban population by 66 million from 1900 to 1950. They have been acclaimed for their educational, aesthetic, recreational, and other cultural opportunities despite their noise, lack of clean air, and wretched transportation facilities.

The organization of the volume is finely adapted to the scope of Professor Gottmann's intensive research and his survey of this vast area, covering 53,575 square miles and supporting a population of about 37 million at present. Divided into four main parts, the fifteen chapters have been placed under the following headings: The Dynamics of Urbanization, The Revolution in Land Use, Earning a Living Intensely, and Neighbors in Megalopolis. The discussions provide some new and revealing insights into such phenomena as the mixing of urban and rural elements of the population, the contrasts between upper and lower status levels, and the problems and tensions ensuing because of ethnic diversity. Even the scenery offers a "colloidal mixture of rural and suburban landscapes." The region calls for the conquering of what Gottmann calls the new urban frontier with the same spirit and enthusiasm that was once used to clear away the wilderness. The society of tomorrow will be an urbanized society, "a new stage in human civilization."

The problems facing the new urban frontier are many, and some are acute; but the "spirit of the people" must be recognized as the decisive element in the historical perspective on the future. It will be this spirit that will decide whether or not Megalopolis will become the best "cradle of a new order in the organization of space."

Finally, the author has provided a wealth of materials for those interested in demography, geography, regionalism, urban and rural sociology, economics, and political science. Enhancing the book's general utility still further are an abundant supply of maps and tables and some very good illustrations of such factors as forest locations, topography, and land uses in certain locales. The study was financed and supported in part by the Institute for Advanced Study and the Twentieth Century Fund.

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Cottingham, H. F., & Hopke, W. E. *Guidance in the Junior High School.* Bloomington, Ill.: McKnight & McKnight, 1961. Pp. ix + 390. $6.00.

This is a valid book. It reflects accurately the status of guidance in American education: long on practice, short on theory. However, this status is perhaps due more to social pressures on the national scene and within local school communities, requiring that certain immediate matters be attended to, than it is to a decision or conviction among guidance personnel that conceptual thinking should be avoided. In any event, the authors of the present work have chosen to write "a volume devoted to the principles and practices descriptive of guidance functions found in junior high schools throughout the country" (p. 1).

Despite their stated purpose, the authors have done more than report practices. The first four of the fifteen chapters provide a useful introduction to the topic and are entitled, respectively, "The Junior High School in American Education," "The General Nature of the Junior High School Student Body," "The Need for Guidance in the Junior High School," and "The Nature and Characteristics of Guidance." The next eleven are basically how-to-do-it chapters, amply illustrated with actual practices from the field.

Chapter IV, which defines guidance and tells what guidance is not, is probably the most controversial. Guidance "in terms of the individual" is defined, with a reference to Super, as "the process of helping a person to develop and accept an adequate and integrated picture of himself and his role in the world of every day living, to test this concept against reality and to convert it into a reality with satisfaction to himself and benefit to society" (p. 42). Guidance is also defined "in terms of the school" as "a distinct phase of the total school program which provides individual and group assistance to pupils on problems of vocational decision, educational plans, or personal-social goals" (p. 42). A final definition has three dimensions: a point of view, an experiential process, and a pattern of services (pp. 42-43). The services implement the point of view and bring about the process. The point of view is defined as "emphasizing professional assistance in meeting the various adjustment needs of students" (p. 42).

These definitions all have interesting possibilities, but the reader is left with the task of relating them to each other. It might have been helpful, for example, to define a phrase like "adjustment needs of students" and to relate it to Super's self-concept.

Guidance personnel and teachers may experience difficulty with some of the positions taken or implied by the authors' definitions and prefer guidance roles which are more explicitly related to the maximum development of the individual student's potentialities. For instance, guidance personnel may question the problem-centered approach, and teachers may not agree totally with the guidance role assigned to them—"a first line of defense in preventing and alleviating pupil adjustment problems" (p. 47).

Educators in general may question the authors' definition of the curriculum as broad experiences which "may emphasize knowledge, concepts, and skills as opposed to individually evolved decisions, goals, and problems which are often the focus of at least the counseling phase of guidance" (p. 50). To affirm that "The curriculum or program of instruction, co-curricular activities, discipline, aid in special education, health services, clinical and remedial services, pupil accounting and attendance, and visiting teacher services are not normally included in the guidance services" (pp. 59-60) is to contribute to a narrow definition of guidance. To add that "They are regarded as corollary or complementing programs which offer supporting resources to guidance personnel" (p. 60) is to invite righteous indignation at the very least!

This discussion may suggest that this book is generally narrow in outlook. Actually it is not. Although the authors maintain that guidance is a pattern of specific services, they also assign guidance functions to all school personnel. It is fair to add, however, that to the degree that this book defines guidance as a broad all-school function, to that degree it reflects its reported practices in the field. To the degree that it restricts guidance to the professional activity of the guidance counselor, to that degree it runs counter to its own evidence.

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Levitt, M. *Freud and Dewey on the Nature of Man.* New York: Philosophical Library, 1960. Pp. 180. $3.75.

If it is true, as Lionel Trilling thinks, that all who are by temperament strongly drawn to Dewey are likely to be troubled and even repelled by Freud, and if it is equally true that few psychoanalysts know of Dewey, then this volume marks a salutary attempt to fill a gap which must exist in many of our intellectuals. Dr. Levitt makes no attempt to analyze the antipathy each camp allegedly feels for the other. He does show that there is no fundamental theoretical contradiction between Dewey and Freud, that they had certain common basic orientations (Darwinism, a conflict theory of emotion, etc.), certain striking accidental similarities (their position in their families, the friendshp of G. Stanley Hall, etc.), and that, most importantly, their "differences" stem from their respective *emphases:* Dewey on the "outer" or social, Freud on the "inner" or individual. But rather than exhibit the complementary aspect of the two, Dr. Levitt endeavors to meet the criticisms which Deweyans would bring to Freud's thought and which Freudians would bring to Dewey's. In the process Dewey is shown to be less of a Deweyan, Freud less of a Freudian.

Two criticisms of psychoanalysis are implied by Dewey's *Human Nature and Conduct*—the reification of psychological constructs (*e.g.*, the unconscious and the id-ego-superego), and the instinct theory. But Levitt cites many passages from Freud to indicate that Freud himself recognized that "the theory of the instincts is, as it were, our mythology," and that the basic sense in which he wished to use it was practically equivalent to Dewey's concept of "impulse." Moreover, Freud was keenly aware that he was building a formal model, and he exhibits a recurring concern for the justification of his concepts in terms of the canons of scientific methodology.

The high point in Levitt's study, however, is the presentation of certain aspects of Dewey's thought which are intended to meet psychoanalytic criticisms. Here is a full presentation of Dewey's psychological system, reaching back to the *Psychology* of 1887 and through the *Problems of Man* in 1946. To those familiar only with Dewey's more popular works and later concerns, this chapter will provide the same kind of fresh view as Morton White's *The Origin of Dewey's Instrumentalism.* Here we find an analysis of emotion, a conception of "affection" in close correspondence with Freud's "love," an analysis of "abnormal" feelings, the "first clean-cut conflict theory of emotions in the general psychological literature," the role of symbolism, and finally, a highly sophisticated theory of transference.

Dewey is reported to have repeatedly referred to Freud as "a very acute observer of human behavior," and Freud esteemed Dewey as "one of the few men in the world for whom I have high regard." Unfortunately, the lessons which the psychoanalyst has for philosophers have not been sufficiently well learned, and the discipline and breadth of concern which the philosopher manifests have gone unheeded by too many psychoanalysts. Between these poles or emphases, teachers, guidance workers, administrators, and citizens all operate. Their real success lies in their ability to function comprehensively, avoiding the either-or mentality. Dr. Levitt is to be commended for helping us contend more effectively with the threat of an incipient and harmful dualism.

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Stember, C. H. *Education and Attitude Change*. New York: Inst. Human Relations Press, 1961. Pp. xvii + 182. $4.00.

Almost every student of public opinion polls must have had the feeling, at one time or another, that there was a vast gold mine in the form of IBM cards in the various polling agencies and that he would like to exploit this wealth. After reading Professor Stember's book, in which he utilizes just this method, I am inclined to suspect that the gold is only iron pyrites and that the solution to our pressing problems of understanding public attitudes must be found in more intensive theoretical analysis and better research design.

Under the auspices of the American Jewish Committee, Stember set out to compare and, where possible, re-analyze the findings of a number of public opinion polls dealing with minority groups. He has done a methodical job of exploring materials from the Gallup Poll, National Opinion Research Center, Opinion Research Corporation, and the Roper organization, plus several smaller studies. He has systematically set up, in parallel tables, the comparative findings from these polls, and in many instances he has sliced the data in new strata by a resorting of cards.

The results are unsatisfying. In the first place, the text has all the literary quality of *Psychological Abstracts*—jumpy and ill-connected. Perhaps this was unavoidable, but it is irritating. A second problem seems to derive from the confusion in the author's mind between education as it exists and education as an idealist might wish it to be. Stember says, "We think of education as liberation—a process of freeing people from narrowness and provincialism—and therefore look upon the elimination of prejudice as part of the larger goals of the education process" (p. 1.). Few who know our schools and colleges would support this as a practical reality. And testing the hypothesis against public opinion data proves not to be easy. There are several dimensions of prejudice, many potential target groups, and a number of variables empirically correlated with education but logically independent of it, all of which may confuse the analysis.

It seems strange that Stember did not provide any estimates of the confidence levels for the differences he cites. His discussion does not make any distinctions between the various kinds of differences reported, although it is likely that some merit greater confidence than others. In his favor, I must note that his interpretations emphasize instances in which several differences point in a common direction; unfortunately, the data sometimes point to divergent conclusions.

A more serious criticism relates to the use of the term "attitude change" in the title. Virtually none of the data relate to before-and-after studies of a single population, and few are based on matched samples of comparable groups. For the most part, this is a summary of *attitudinal differences* among groups varying in educational level. Further, "educational level" is not analyzed. In a few cases, it is possible to hold socioeconomic status constant and measure education as a variable, but little attention is paid to the problems introduced by variations in values, exposure, response set, and other factors as between college and noncollege respondents.

The author has not considered a very important hypothesis which seems to me quite relevant to his material. This is that his data indicate the importance of public information (propaganda) programs outside the educational milieu. The data show that, as education increases, the subject's willingness to accept minority group members on the job and in the schools rises sharply. On the other hand, differences with regard to intermarriage are quite small. Stember states, "The educated are more inclined toward casual relationships with minority-group members, but *less willing* to accept contacts that verge on the intimate" (p. 171, italics mine). This is not supported by his data. The figures show that educated groups increase slightly in tolerance for intermarriage, albeit very slightly. My point, however, is that propaganda in favor of integration in employment, voting, transportation, and schools has been widespread, whereas civil liberties organizations have not mentioned intermarriage. Thus it appears that *people of higher educational level are sensitive to their environment;* they have learned what is preached, *viz.*, approval of integration in secondary group relations. They have not learned something which is not preached—integration at the level of marriage and intimate contacts.

In conclusion, I must say that this investigation is of only slight utility. The author has perceived his task as that of collating a variety of opinion poll data and making them available; for this we may be grateful but hardly enthusiastic. He has not tackled the far more demanding and difficult tasks of examining what we mean by attitude change (more accurately, change in prejudice), what we mean by education, and how we can fruitfully explore the effect of the educational process upon prejudiced attitudes. All of the important questions are left unanswered; most of them are not even asked.

Ross Stagner
Wayne State University

Cleugh, M. F. (Ed.) *Teaching the Slow Learner in the Special School.* New York: Philosophical Library, 1961. Pp. 338. $10.00.

"My methods for your consideration" appears to be the motto for this extensive report on the teacher at work. The presentations are, for the most part, chatty and personal—teachers sharing their classroom practices with other teachers.

Points of view, stated with authority and confidence, are seated in teachers' experience with slow-learning (educable mentally retarded) children. The editor limits identification of the contributors to their signatures and their common qualifications as experienced teachers holding the University of London diploma in the teaching of educationally subnormal children. The methodologies and approaches would be more meaningful to the reader if over-all information were included about the specific children or programs. Although no introduction or concluding statement of basic tenets for curriculum or programing is offered, a few contributors' references to other sections aid the reader in placing the "traditional subject lines" in some perspective. In general, there is little evidence of the subject areas' relationships to total action settings for children.

Since each chapter is an individual and relatively independent talk to teachers, the reader has opportunity to respond to those attractive to him. Particularly stimulating to the reviewer was Mary Redmond's consideration of the reading process and its place in the child's general development. The chapter is well organized and comprehensive, providing abundant food for reflective thought. Closely related in approach and content are the presentation on drama by John Shaw and Charles North's report on handicrafts; they are rich in ideas and reflect appreciation of the teaching-learning process for children who must learn how to learn.

Throughout the publication generally are a sense of hope and a striving for the remediation of dysfunction through an acceptance of present status, a search for vehicles for the child's expression, and a demand for maximum enhancement of the pupil's self-respect through his fullest possible development. Recognition is given to multiple disabilities as deterrents in meeting usual school expectations and as barriers to be conquered.

Cleugh has rendered a professional service in providing teachers' reports on classroom content, methods, and specific materials. From them, readers may expect refreshment and stimulation. And educators seeking fundamental principles and theoretical bases for program planning will obtain valuable clues through a systematic analysis of the material presented by these sensitive and insightful teachers.

Frances P. Connor
Teachers College, Columbia University

Weidner, Edward W. *The World Role of Universities.* New York: McGraw-Hill, 1962. Pp. 366. $6.95.

"American universities have drifted on the seas of international exchange programs without rudder and direction, without compass and destination." Edward Weidner frankly criticizes the world-wide activities of US colleges and universities, the US Government, and the foundations in his readable book, rooted in four years of study of the international programs of 184 American institutions of higher education. Although Weidner believes that American colleges should devote increasing attention to international activities, he concludes that present and past programs have had limited impact on both the foreign countries to which they have been addressed and the home campuses on which they have been based.

In considering various types of international programs, Weidner concludes that "the international activity with the greatest value to most American institutions in the long run is the student-abroad program." He points out that while the results to date of various experiments in sending American students overseas have been disappointing, "easily introduced modifications" could improve them. He recognizes that the lack of full faculty cooperation and participation has handicapped exchanges. Although study abroad is not for every American student, he still proposes that a larger proportion of students can and should be offered some kind of opportunity to study abroad —"if not for undergraduate purposes, then for graduate; if not for specialized objectives, then for general education; if not for a year, then for three or six months; if not for class work, then for field research; if not in the Western world, then in the non-Western."

More than half of Weidner's book analyzes a wide variety of technical assistance programs. He points out that US universities send more professors abroad on such projects than do foreign universities. Concluding that present programs have not accomplished much of long-term value either abroad or at home, he recommends that technical assistance programs "should be sharply reduced in number, in size, and in scope."

The fundamental indictment of the international activities of US colleges and universities is that most of them have not been clearly related to the basic objectives of institutions of higher education. Weidner proposes two tests to determine whether a suggested international activity is consonant with the purposes of an institution of higher learning: (1) Has it theoretical content, and (2) are there other organizations in society that can perform the activity just as well? Applying these tests, he concludes that many of the present international programs are peripheral to the major objectives of an educational institution.

With respect to the US government's deep involvement in international educational and cultural relations, Weidner outlines three major shortcomings of its approach: (1) the lack of distinction between short-term and long-term programs and goals, (2) the "immediate and direct subservience of the cultural program to the special political objectives of the State Department, and (3) the lack of over-all educational planning, which leads to scattered programs with no relationship to the needs or interests of universities.

This much-needed and thoughtful critical analysis of international educational programs challenges every American college and university to review carefully its present enterprises, to define clearly its proper role in international development, and to resist the blandishments of government or federal programs which do not fit its objectives.

DONALD J. SHANK
Institute of International Education
New York City

Book Notes

Telstar and Vostok III and IV reminded us this past summer of how intimately involved we are with the rest of the world and how important an event in one part of the planet is likely to be for those who live on another part. The impressive thing about the shrinking of the earth under the astringent of technology, however, is not its occurrence but its rate. If the "great globe itself" has been reduced to basketball proportions today, there is every evidence that it will be golfball-sized tomorrow. Willy-nilly, we who inhabit the earth are coming to live with each other under conditions of inevitable and demanding proximity.

It is for this reason that Percy Bidwell's *Undergraduate Education in Foreign Affairs* (New York: King's Crown Press, 1962. Pp. viii + 215. $5.00) is an important book. It defends the eminently reasonable thesis that intelligent citizenship requires familiarity with international relations, cultural and economic as well as political, and that it is a responsibility of our colleges to develop such an understanding of the nations and peoples of the world. In a survey of college offerings, Bidwell finds that there may be ample opportunities for students to participate in relevant programs, but they are not widely taken advantage of. Few students are strongly encouraged to take available courses; they are seldom required, and there is little evidence that any strong international flavor has penetrated general education courses that may be an integral part of degree sequences in the liberal arts.

The reasons for this state of affairs are undoubtedly complex. There is the strong possibility that the hurly-burly of a rapidly changing world evokes responses of denial and withdrawal from many students, who, alone and all afraid in a world they never made, apply themselves to enterprises closer to their homes and probable vocations. Other students, beginning with a lively interest in international matters, lose their enthusiasm in courses of the survey sort which "require so many to devote so little to so much." This problem shades into the difficulty of finding adequate instructors. Specialists in various world areas are becoming more abundant almost daily, but such scholars have a preference ordinarily for graduate students. The rewards for good undergraduate teaching, especially in the context of general education, are not likely to be high.

Related to this pattern of concerns is the curious divorcement of American history courses (and other offerings in the social sciences) from international affairs. As it is taught, American history has become sufficiently isolated from the world scene to engage the attention of the American Historical Association, which is currently studying the problem and will soon be making recommendations with respect to it.

It is not that raw resources are lacking. Money is not in short supply for the financing of appropriate and novel ventures; there is a growing body of American college professors with overseas experience of responsible kinds in their vitas, and there is a body of 50,000 foreign students in attendance at US institutions. How most fruitful use can be made of these resources, however, is a question that has not yet been imaginatively attacked. There are few items that deserve a higher priority on the agendas of college and university administrators.

In one of our newest domains of international relationships, Africa, we have G. W. Kingsworth's *Africa South of the Sahara* (New York: Cambridge Univer. Press, 1962. Pp. 160. $1.95), an informative little volume by a British Africanist of considerable stature. The book does extremely well what it sets out to do: to acquaint broadly rather than to inform deeply, to whet the appetite rather than appease it. Written as a text for secondary school students, it has a surprising maturity about both its style and its treatment of the various African regions and nations, and it will prove very satisfying to serious adults —there are many!—whose knowledge of African history is shaky or nil. Rich in facts, Kingsworth's book evokes a feeling of genuine respect for peoples capable of evolving strong tribal nations and, in some places, wealthy and stable kingdoms long before the European intrusion and the long interregnum of colonialism before nationhood again emerged in new, modern, and sometimes bloody forms.

Africa is only one of the places to which more and more Americans are traveling, and Mrs. Louise Winfield's *Living Overseas* (Washington, D. C.: Public Affairs Press, 1962. Pp. xvi + 237. $4.50) is a rather useful and certainly entertaining guidebook for those "who follow jobs to the ends of the earth." With about 1,800,000 Americans abroad, about a quarter-of-a-million of them in family groups, such a volume is not without its uses. Happily, Mrs. Winfield concentrates on the role that US nationals play of ambassadors without portfolio, and her discussions of how to learn new mores and to appreciate strange cultures are informed and wise ones. She is also much concerned with how Americans can properly maintain their own national identity while working as appreciative guests in countries other than their own, and she draws a sharp distinction between understanding the people among whom one is living while overseas and the rarely admirable process of "going native."

Finally, there is the curiously important little *Iceland: Reluctant Ally*, by Donald Neuchterlein (Ithaca: Cornell Univer. Press, 1961. Pp. xiii + 213. $.50). Like many places in the world, Iceland has become tremendously important to the major powers because of its strategic advantages in the age of the fast airplane. An ancient nation, which has maintained an isolated integrity for over a thousand years, Iceland was ill prepared for the impact of World War II and the influx of foreigners, including large numbers of American troops, that the war years brought. Despite her joining NATO in 1949, the country's attitudes toward alliances with Europe and North America continue to be divided, oscillating, and ambivalent, and the maintenance of US defense forces on her soil remains a major issue in Icelandic politics.

Of her four political parties, one is communist, a fact which is hard to explain in a country with strong traditions of independence and virtually no poverty and no illiteracy. Drawing much of its strength from the labor movement, the party has many supporters among the intellectuals and publishes a particularly vigorous and widely read newspaper. A careful study of Icelandic communism could conceivably tell us much that the free world needs to know about the dynamisms of communist ideology.

Most of all, this little book, dealing with a remarkably sturdy people in the net of new world relationships, underscores in a particularly dramatic way a central truth of our age: No man (and no nation) is an island, entire unto himself, but each is a piece of the continent, a part of the main. The question is how we can discover ways of making that truth fully operative in our personal and governmental lives. —JH & EJS

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RECORD

VOLUME 64 NO. 2 NOVEMBER 1962

NICHOLAS DeWITT
Harvard University

The Soviet student: Profile and prediction

LET ME PREFACE my brief remarks by asking how many times in the last few years you have heard the powerful little phrase, "Soviet commitment to education." It sounds very challenging—and very threatening—but all the anxious talk about the Soviet commitment to education, I believe, misses the point unless we face rather squarely the basic issue: Commitment to what *kind* of education?

From Aristotle to Dewey it has been recognized that education and society are interdependent. It is not the education but the society which it is called upon to serve that sets the goals. In our pluralistic society, we uphold a maxim that education is good if and *only* if it is designed to serve the individual. Our system of education is in a continuing process of adjustment to private demands and individual choices, and our social needs and our national aspirations are translated into action through the individual.

In contrast, in a totalitarian society of the Soviet type in Russia or elsewhere, the educational maxim is service to the state. The communist state—or to be more precise, a central government controlled in turn by a small power elite—has the normative jurisdiction and dictatorial power to enforce how much and what kind of education is to be made available to each and every individual. Communist education is, therefore, but a means to an end, and this end is the total integration of human activity in a centrally administered plan of economic and social development.

The New Soviet Man

A component part of this drive is the development of a "new Soviet man" who must be, first, a competent and skillful producer of the goods and services that the planners want and, second, an obedient, loyal, disciplined citizen who does not question (and I emphasize *does not question*) a set of values proclaimed by communist dogma and thrust upon the individual by the regime. Although Soviet education invariably pays lip-service to general education, its main objective is to offer *functional* education, which in reality is uniquely geared to the training of specialized manpower for the Russian state. This general approach permeates the entire educational system, and the Soviet "high school," if their senior secondary schooling may be called such, operates within this setting.

The functional approach to education was and will continue to remain basic Soviet educational policy. The relevant question is, then, how it is executed.

The Soviet schools today are in a general state of flux. The piecemeal adjustments of Soviet school programs which began in the early 1950s were accelerated by Khrushchev's educational reform of 1958, the completion of which is intended by 1963. Although Soviet politicians talk confidently about this target date, when all Soviet schools in the entire country will be operating on a new 11-year program of primary-secondary schooling, neither Soviet educators themselves nor Western analysts of Soviet affairs are certain that such a complete change-over can be achieved on schedule. My own guess is that the decade of the 1960s in Soviet education will be marked by further "rolling readjustment," increased experimentation with teaching techniques, varying combinations of part-time and full-time instruction programs, and still further attempts to introduce multitrack education and various electives, particularly in the high schools.

The academic high school in Russia, about which so much has been said in the press, is dead, and the adjustments aimed at creating a diversified secondary school curriculum will continue for many years. As I see it, the essence of the present changes and those to come in the 1960s and probably the 1970s is that it is a long delayed response to the *changing* role of the secondary school in Soviet society. The Russians are just beginning to realize what we have experienced in our own educational development over the last half century.

For some 40 years the Soviet regime has been talking about the introduction of universal secondary education, but this goal has never been achieved. The last Communist Party Congress in November, 1961, again announced postponement of this ambition until 1980. Thus, until recently, secondary schooling in the Soviet Union was a highly selective educational enterprise. All the Soviet claims concerning the so-called "universal availability" of the secondary school notwithstanding, the relative rates of secondary school enrollment in relation to the appropriate age groups were in recent years only about 40 per cent. This means, in comparative terms, that Soviet enrollment rates are currently about two to three times higher than those prevailing in Western Europe, where there are exceedingly selective educational programs. But at the same time, this is about one-half of our enrollment rates. The important point to realize is that the American high school is the unique example of mass education on the upper secondary level in the entire world. Both in absolute and in relative terms, the Soviets will need a very long pull if they want to make upper secondary schooling universal and compulsory within some 20 years.

I have made these comparisons, however, in order to emphasize that secondary schooling in the USSR, even *after* a several-fold expansion during the last ten years, still remains largely a selective enterprise. I believe this factor to be of crucial importance to all other issues. It provides the key to the problem of content in education and to many related determinants of the quality of education.

Russian Turning Point

Until the early 1950s (to be exact about 1952, perhaps the date of the turning point), the Soviet secondary school had but one task to fulfill. It was a bona fide traditional academic high school with its major function to lay the groundwork for higher education, weeding out the less competent and providing those of demonstrated ability with a foundation of general academic knowledge essential to pursue professional higher education. Among five major pedagogical tasks—physical education, esthetic education, mental education, polytechnical-vocational education, and moral-political education—the Soviet high school in the 1930s and 1940s assigned predominant roles to only two, mental education and moral-political indoctrination. The first one was marked by very heavy academic content; the second, through political bias, introduced such subjects as history, foreign language instruction, and literatures, and was closely associated with various partisan organizations such as the Pioneer movement and Young Communist League. Physical and esthetic education had relatively minor roles in the entire instructional process, and the polytechnical-vocational component was almost non-existent.

The Soviet schools were quite successful in providing heavy academic exposure, but aside from fostering outward conformity, they were quite weak in character training. They offered one standard and nationally uniform college-preparatory program. There were no electives, no vocational subjects, no multitrack education, no counseling, no guidance, no aptitude testing, no homogeneous grouping, and a great many other "no's." In short, it was simply not concerned with the thousand-and-one headaches of diversified and comprehensive high school programs as we know them.

Teachers followed traditional academic pedagogical techniques, and each student was, so to say, "on his own," struggling to demonstrate his ability by passing a multitude of examinations and usually scrambling quite madly to win the top grades which would entitle him to a graduation certificate with honors, and, consequently, permit him to enter higher education without any further academic screening. Until 1953, less than 10 per cent of the pertinent age group (17 and 18 years old) earned graduation certificates from high school, and the majority of them were immediately absorbed in the colleges and universities of the Soviet Union.

In the course of the 1950s, a marked change took place. In a drive to expand secondary schooling, enrollment multiplied fivefold in ten years. Promotions from one grade to the next were made easier. Some vocational and skill subjects began to be introduced gradually, under the very familiar justification as an aid to slow learners. By 1958, the Soviet secondary schools were turning out 1,500,000 graduates, some seven times more than in the late 1940s. One-third of the relevant age group of 17- and 18-year-olds was completing high school. But of these youngsters, only about one-fifth was destined to be absorbed by higher education, a state of affairs which intensified selective and academic screening. Further, the colleges and universities continued to set their admission quotas —and this is perhaps the breaking point in this entire feeding mechanism of education—not on the basis of private demand, but on the basis of the central plan, which is an expression of derived demand, estimated in Moscow in accordance with the planners' preferences, determining annually how many should enter higher education in the light of the probable requirements of the economy five or ten years hence. Consequently, a ceiling was imposed from above on how many could go on to higher education.

Population Factors

The situation was even further complicated by the so-called demographic squeeze. Quite the contrary to our population explosion in the elementary schools in the early 1950s, the Russians were in the midst of tremendous demographic shortfalls. The planners knew that in the early 1960s the demographic shortfall would hit the supply of young recruits for the Soviet labor force with devastating effect.

The Second World War caused a birth deficit in Russia of some 15 million youngsters. In the early 1960s, the age groups of 18-year-olds will be only one-half their normal size of some 5,000,000 persons. If education were expanded to such a degree as to absorb all of them in full-time schooling, there would be very few left for full-time employment. In order to channel youths into needed laboring activity, therefore, a drastic overhaul of the educational system was also required, including an expansion of part-time education. Thus, the Khrushchev educational reform of 1958 had to face up to several issues at once: (1) diversity of education, (2) labor preparation, and (3) demographic changes. It had to create the diversity, and it had to satisfy the pressing need to turn out students trained in suitable labor skills and ready for immediate employment. At the same time, it had to keep open the possibility of further specialized higher education later and then for only a small fraction (perhaps one-fifth or so) of those who were graduated from the high schools.

Those familiar with the structure of Soviet primary and secondary schooling know that until recently it lasted ten years, with the formula 4-3-3 for primary, junior secondary, and senior secondary levels respectively. Now, in accordance with the educational reform, the formula is being changed to 4-4-3, with grade 8 of the junior secondary school being terminal so far as compulsory schooling is concerned. The three upper grades will be the senior secondary school, and as in the past, it will remain optional. A frequently asked question, of course, is that of how this upper secondary school compares with the American high school. I assure you that the dividing line cannot be precisely drawn, and it is certainly only in a nominal sense that the two may be considered as equivalent. For example, the high school in Rock Island, Illinois, offers some 80 subjects. One rather typical bright young girl took only 18, most of them academic subjects. In the Soviet case, the high school (or upper secondary school) would have normally offered only 20 academic subjects over the three-year-span. In terms of hours, the student carries a substantially heavier load, but that's a different story.

An examination of syllabi for some American high schools and the standard syllabi for the Soviet schools suggests that for some central subjects, course content in the Soviet junior secondary division is very similar to what is being offered in American high schools. I think this is particularly true in the sciences.

As a corollary, I would say that, in general, the content offered in the upper secondary schools in the Soviet Union, especially in such subjects as physics, chemistry, trigonometry, and some other branches of mathematics, is usually of the type used in introductory or general survey courses for non-majors in the freshman year of our colleges. Foreign language exposure, for example, is much heavier; but it is very sterile in teaching techniques, and it is hard to judge what the end product genuinely is. Such courses as history are extremely difficult to compare because of the political bias present in Soviet teaching. But classical Russian literature is certainly more extensively taught in the USSR than is English literature in our own high schools. Incidentally, despite all the clamor about Russian kids' reading Mark Twain in elementary schools (with the appropriate social message, of course), I think that the teaching of Western literature in Soviet secondary schools is quite inadequate.

Different Systems

I could go on with such tidbit comparisons, but in all earnestness I don't believe there is any good commonly applicable yardstick by which we can measure the two high school programs. The real difficulty is that our *minimal* requirements are probably much lower than in the Soviet secondary schools for the standard program. Yet our strong high schools, particularly in their academic or college-preparatory programs, offer definitely as much as the Soviet secondary school student is exposed to. On the one hand, we deal with a very heterogeneous type of program, whereas on the other, we are confronted by the rather homogeneous and standard curriculum of the Russian school. This creates enormous handicaps in comparing the two, and because of these diversities in setting, it is hard to draw meaningful parallels.

Nevertheless, it is clear that one of the major developments in Soviet secondary schooling has been a marked shift towards vocational skill training of kinds that will be useful in the labor force. In the course of the 1958 debate, it was widely suggested that it might be desirable for the Soviet schools to (1) introduce multitrack education, (2) make special provision for the education of academically able youths, and (3) provide supplemental vocational and skill instruction as "overload" electives outside the normal curricular requirements.

As it turned out, the new school programs which are being introduced now and probably in full operation by 1963 do not incorporate *any* of these provisions! The Soviet high school of the 1960s will be called the "secondary polytechnical school with production training." As the wording suggests, the polytechnical-vocational component of education has come strongly to the fore. Although the curriculum remains standard as far as academic subjects are concerned, some of the vocational and skill subjects which have been added are no longer optional but required. Here is a major and central change.

The extent of the change in the Soviet secondary school program can perhaps be best demonstrated by looking at the curriculum for 1952 against the one for 1959-63 as established for the three upper grades of the Soviet secondary school. The formal curriculum in 1952 was based on about 3,200 hours of instruction, distributed as follows: 50 per cent to languages, literatures, humanities, and social sciences; 41 per cent to mathematics, natural and physical sciences, physics, chemistry, etc.; and nine per cent to activities and the skill and polytechnical subjects. In 1963, the curricular situation will be about as follows: During the three years of study, the curriculum will be based on 4,300 instructional hours, so the Soviet educators have stepped up by 1,100 hours the total body of requirements. Marked changes in the distribution of hours have also occurred. To the languages, literatures, humanities, and social sciences, now only 27 per cent of the time is devoted. To mathematics, natural sciences, etc., 29 per cent of time has been allotted. To activities, skill subjects, and primarily polytechnical and vocational courses goes a greatly expanded 44 per cent of the time!

One can readily see what a drastic reorientation takes place. If one compares the absolute number of hours, remembering that total school time is greater by 1,100 hours, then it is apparent that mathematics, science, etc., remain about the same, losing perhaps no more than 70 instructional hours; there is an enormous loss of 500 hours in time devoted to the social sciences, etc. The total gain of 500 hours stripped from the humanities plus the 1,100 hours added has *all* been apportioned to the vocational subjects.

Vocational Primacy

What is happening is, I believe, that on top of the still standard and academic program, the Soviets have thrust the vocational-polytechnical component. It is only in this area of vocational subjects that the Soviet secondary school student has an option; he may elect a specific polytechnical profile and the specific skill training within it. This new arrangement provides for choice of specific skills such as those of a metal worker or tractor driver or the office arts, including the clerical arts. Even domestic arts for girls are available *within* the vocational training component. The number of profiles ranges into several hundred, depending upon the local employment conditions in the area served by a particular secondary school.

One can see the problem at once. Obviously, in a large city with diversified industry, there are many options and no great difficulty in channeling small groups of students into one or another vocational training slot. In other words, those 1,600 hours that go into vocational training can be properly parcelled out among different groups of students, each group taking the appropriate type of vocational training. But in one-industry towns and rural areas, the circumstances are obviously quite different, and the choices are extremely limited. So the problem of how to diversify vocational instruction in those areas (small one-industry towns) is a headache to the Russians now.

It is fair to say that this vocationalizing of Soviet secondary education is bound to have some negative effects upon the quality of academic instruction. The Russians are fully aware of this. Although the Soviet authorities claim that labor preparation of youth provides a very harmonious complement to academic schooling, there are already many reports in the Soviet press that such harmony is far from a reality. In terms of course content, the humanities, as I already have said, have suffered most, and there is now a wide outcry among Soviet educators that preparation in languages and literatures has been undermined and now should be strengthened again.

In mathematics and sciences, the situation has not been so bad. In the first place, there were no substantial cuts. In the second place, the programs have been organized in such a way that the new polytechnical undertakings are very often oriented toward technology and applied science, and some educators (aside from political talk that this is such a healthy thing) insist that there may be some benefits from the polytechnical programs to the science-mathematics part of the academic curriculum. In other words, although polytechnical instruction is applied in its nature, it is tied to some degree to academic teaching in the sciences and mathematics, and Soviet educators feel that in some areas and in some ways this arrangement has strengthened the over-all instructional process. Otherwise, the purely academic preparation of Soviet high school students has, to my mind, been obviously quite weakened.

A Shared Dilemma

For the time being, the skill preparation of Soviet secondary students may be a high priority target because of demographic trends, the demands of the economy, etc. But this cannot continue indefinitely, especially if it should be found in the next few years that the preparation of professional manpower is affected negatively. I believe that the Russians are extremely pragmatic and extremely practical in their educational policy, and the dilemma in the future will be that of how to maintain the program of universal vocational training and skill preparation and yet preserve academic standards for at least the most able students. In this respect, they find themselves in the same box as we. It is precisely in this area, I think, that Soviet educators are shopping around the world, including this country, for techniques and methods that will help them to solve their dilemma.

In conclusion, I would like to make the following point: The Soviet school reforms, as I see them, are really an attempt to revamp, to change the school system from above so as to make it more responsive to pressing national needs. It is a drastic educational venture in this sense, for it proceeds from above; but it is also a dramatic enterprise, the basic assumption being that the state—the central planning board—knows the basis for deciding and determining what education individuals ought to have.

Individual choices and preferences are not even considered, and the age-old issue of education—what kind for what purpose—has been explicitly resolved not in favor of an individual, but in favor of the Soviet state.

It is in this context of the very large issues that we must talk about the changing role of education in a modern society. We must recognize for a fact that the Soviet educational system succeeds indeed in developing the human mind to a high competence in many areas, especially those vital to the technological effort of the nation and its power potential in the world. But, at the same time, the Soviet type of schooling deprives the individual of his potential to exercise independent—and I emphasize *independent*—and creative thought in the sphere of social values. Applied technical training, now added to the Russian secondary curriculum, certainly furthers technical competence; but as far as I can tell, it adds precious little to the cultural, ethical, or social values which are cherished so much in *our* educational effort.

I think there is a general lesson here of considerable importance. Our educational tasks are much more complicated than theirs. Thus, while I think we should consider ourselves in an educational race, we must be clear that we are certainly not running on the same track. To get ahead in this race on our own terms, on our own track, we must do a great many things. Above all, however, I feel that we should not be concerned any more with how many more people we educate, but with *how well* we educate them. This is my own view of the problem of American education. To suit our own most complex needs, we must provide quality education in earnest and on a very broad front before it is too late. I started with the phrase "commitment to education," and commitment to education to me has one very special implication: Education is, after all, no better than society—meaning all of us—is willing to make it through our work, our effortfully gained understanding, and our vision.

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Educational revolution in the Middle East

THERE IS NO GENERALLY accepted definition of the form "Middle East." There is no Middle East at all in the official American diplomatic terminology, only Near East. Yet important diplomatic documents employ the former term, and the Joint Congressional Resolution of 1947, known as the Eisenhower Doctrine, describes its scope as the "general area of the Middle East." Because of this terminological ambiguity, every author must provide his own geographic framework. For the purposes of this article, the Middle East encompasses the Arab world east of Libya. It also includes Turkey and Iran, both situated in the northern tier of the region, and Israel, located in its very midst.

Paradoxically, the Middle East has long been a part of the world's great illiteracy belt, in spite of the fact that "literacy" originated there. Also, the "Logos"—the Word of monotheism—took wings there on the heights of the hills of the Fertile Crescent, flanking the eastern Mediterranean, and in some of the oases of the Arab Quadrangle.

The Cultural Vacuum

Thus, the Middle East was part of a cultural vacuum, and this was so for several reasons. The bulk of the area had formed the core territory of the Ottoman Empire for centuries. While it had been an effective military machine in its heyday, the empire was always distrustful of secular knowledge and anti-intellectual. It scanned any influence that might detract from the belligerent qualities of its fighting men with suspicion.

The coreland of the Middle East fell into western hands in the wake of the First World War. It was some of the main exponents of western culture, the French and the British, who ruled over these regions as mandatory powers under the auspices of the League of Nations and as "protectors." Barring the usual exceptions, they deemed it unwise to provide the entire population, mainly Arabs and ethnic minorities, with education. Schools were eye-openers, purveyors of skills that might have rendered the western powers superfluous.

The "civilizing influence" of the most enlightened portion of the West was dramatically illustrated by French cultural influence in Algeria. After 130 years of French rule, the record shows that the European minority, representing about one-tenth of the population, was 94 per cent literate a few years ago; the Moslem majority was 92 per cent *il*literate.

The educated exceptions belonged to two special classes. One of them was formed of the Moslems who hitched their dreams of advancement to the French or British stars. The other group of exceptional cases was recruited from the ranks of strong willed indigenous people whose torrential energy overcame all impediments.

Secular education in the Arab countries, Turkey, and Iran was retarded by the claims of Islamic teaching to a monopoly on all learning. On the ground that the Koran contained all necessary knowledge and wisdom, the orthodox of the faith regarded secular education as not only superfluous but also blasphemous. A distinguished western explorer of the latter part of the last century, Armin Vambery, a convert to Islam, who had joined a band of pilgrims to the holy shrines of Central Asia, had to conceal the stub of pencil which he carried along to note down his impressions. He would have been lynched by fellow pilgrims, had it been found, because they equated literacy with godlessness.

Anti-intellectual Influences

Knowledge was imparted then, as is still being done in large areas of the Moslem world, in the *medressehs*, specializing in religious instruction. I visited several of them again this last summer. Many of them are dismal holes with sweaty walls, the refracted light filtering through narrow doorways; the children squat on the floor while the teacher sits on a rickety chair, holding the Koran in one hand, and the cane, a symbol of authority, in the other.

The work of the *medressehs* was pithily characterized by the distinguished Turkish writer, Halide Edib: "They were up to the end of the last century what they were in the 13th century." And they are not much different even now. They have been teaching resignation. Man is but a speck of dust in Allah's eyes, and it would be blasphemy for him to arrogate the right to correct the work of divinity. "*Malesh!* What can one do?"

Another major anti-intellectual factor has been the opposition of the native ruling classes, the *effendis* and *pashas*, to secular education on an extended scale. Let the human beasts of burden bow their heads to the will of God and leave everything to fate. Secular education appeared to be subversive because it puts ideas in peoples' heads about human rights and such other nonsense as shorter working hours and longer lives. There was no place for such thoughts in the minds of common people.

But now things are changing. In our dynamic age, we are becoming accustomed to high-tension words which convey not only abrupt change but also a rapid rhythm and pace. Resting on his academic dignity, the social scientist may show lofty scorn for such terminology, but being human, not even he can escape the atmospheric pressure of his environment. He has not only resigned himself to *Kraftwoerter*—highly charged words—but has also coined several of them. Now he speaks of the "revolution of rising expectations," "great leaps forward into the future," and even of "lexical explosions." It should not be taken amiss, therefore, if one speaks of an "educational revolution" or "cultural explosion" in the Middle East.

There are such "revolutions" and "explosions" in large parts of the area, especially in portions of the Arab world and in Turkey. Israel is a special case, a part of the West in the East, and therefore atypical. The direction of these intellectual changes is to create the conditions of a higher toned civilization, to get in line with the triumphant culture of the West, to join the twentieth century.

Thus, history is on the way to describing a full circle. It was in the Middle East that western civilization had its "dawn of conscience," in James Breastead's picturesque phrase. Now it is the West which is imparting its culture to the Middle East, thus closing the circle.

Sources of Change

This cultural explosion is due to several causes. Middle Eastern countries have become independent in the last few years. The *effendis* and *pashas* are on the way out, and a new creative minority is on its way in. This minority knows that freedom is not complete so long as their countries have to exchange raw materials for the finished products of the West. New skills are needed, especially industrial ones, for genuine emancipation to be enjoyed.

It is galling for the new countries to know that they are still dependent for technological skills on their former masters. This dependence perpetuates, economically, their colonial position. To counteract this situation, they have to turn to the communist bloc, but that course is not to taste either. Freedom lies in education, including the acquiring of skills to use modern machines.

Until recently, most of the Arab countries were highly polarized—a small group of superprivileged people facing the vast masses of underprivileged ones. Real reform can be accomplished only by eliminating this polarization, and that, in turn, must be accomplished primarily through education. Education is also needed to disseminate the ideologies of the regimes which have been established in some of these nations. President Abdul Nasser's "Arab socialism" is more meaningful to people who know what these words mean and the context in social reality of their use.

Nobody in the Arab world, of course, likes to talk about the traumatic experience which seems to have been an important propelling force in the revolutionary upheavals that have been sweeping the region. It was the war in Palestine. A handful of Jews, educated people, defeated the Arabs, the majority of whom were uneducated.

The defeated countries sought at first to deceive themselves. Egypt, for instance, was staging "victory celebrations" to camouflage the smarting defeat. But gradually the lesson of the Palestine war began to sink in. The vanquished were forced to learn that education was a more potent arm than the number of divisions, especially if men pressed into service were unable to read the instructions for the use of modern weapons.

The first Middle Eastern country, however, to stage an educational revolution was Turkey, a few years after World War I. One of the most remarkable men of our century, the founder of that republic, Mustafa Kemal, whom his countrymen were to call Atatürk (Father of the Turks), was a bold pioneer in the field of education. Turkey then was a nation of illiterates. Where was he to get the teachers and the schools in a hurry? There was no time to train teachers in the traditional way. He set up a score of Village Institutes in key places throughout the country, and bright older children were taught there how to teach the younger ones. The villages were encouraged to engage in a healthy rivalry to build schools through community efforts and with the aid of the state. The result of these activities was an eightfold increase in primary education in the period from 1923, when the republic was established, until 1960. Reform spread from the elementary to the secondary schools and then to the universities. A new elite was created in a remarkably short time, consisting of literally new Turks, emancipated from the hold of fatalism and believers in progress, trained in skills.

Arab Quadrangle

But if the old Ottoman Empire, which expired after the First World War, was tradition bound, the peripheral areas of the Arab Quadrangle, bounded by the Arab Sea, the Persian Gulf, and the Red Sea, were even more so, some of its portions having barely left the civilization of the Middle Ages. Their cultural growth has been retarded by isolation, due to vast deserts and a trying climate. Nevertheless, one can detect there now the beginnings of an educational revolution, and the case of Saudi Arabia is particularly instructive.

The primary school attendance, for instance, increased from 29,887 to 80,000 in the decade before 1960. There is a terribly long way to go yet, and in an estimated population of six million, the number of school children is very small still. But a true beginning has been made.

The mountain-girt kingdom of Yemen has been described as the Tibet of the Arab world, cut off from the rest of the region. Latest figures indicate that Yemen now has about a hundred thousand elementary school children in a population of some 4.5 million.

Saudi Arabia and Yemen are considered exotic countries because of their backwardness, and they are cited here merely to point out that even their rigid setting has enabled the modern spirit to penetrate into the interstices of their social institutions. Far more significant is the educational progress of such Arab countries as Egypt and Iraq. They are two pivotal Arab nations. Egypt, now the United Arab Republic, has the largest population in the Arab world and also some of the most advanced social institutions. Iraq occupies the space which was the heartland of the Arab "universal empire" at the pinnacle of its powers at the turn of the first millennium of the Christian era. These two nations are the cradles of western civilization, the birthplaces of the western culture which is now returning to them.

As recently as 1947, the illiteracy rate in Egypt was 80 per cent. The government then spent about 3.5 per cent of the national budget on education, and the number of children in the state primary schools was 250,000 boys and 30,000 girls. Today the share of education in the national budget has increased to more than 15 per cent, and the number of elementary school pupils has risen to 1,500,000 boys and 700,000 girls. Similarly, Iraq increased her educational budget from 16 to 41 million dinars in the three years up to 1960. Both regimes' leaders realize that their reform movements will succeed or fail, depending essentially upon the success of their educational programs.

Progressive ideas have been introduced into the education of many other Arab countries. Rural schools in the Hashimite Kingdom of Jordan and in the Republic of Syria are sometimes attached to gardens or small farms. Egypt has gone even further. There some elementary schools are attached to clinics and craft shops, besides the agricultural stations, serving girls as well as boys. "As the laboring people of the towns, the peasants in the country, and even the uncultured tribesmen come to appreciate the possibilities of modern life, they cooperate with their governments," says Dr. Bayard Dodge, former president of the American University of Beirut, Lebanon.

Extent of Change

Education is being made practical in the Arab world. Young people are now trained for socially demanded work, to fill jobs as skilled craftsmen, stenographers, accountants, and experts in the use of mechanical office equipment. Vocational education is making strides.

Schools to cover this need are being widely established. Whereas only fifty students a year graduated in the period of 1945 to 1955 in Iraq's five technical schools in Baghdad, Basrah, Kirkuk, Mosul, and al-Sulaimaniyah, their number increased to more than a thousand in 1957. The inroads of the industrial age into the bulwarks of the traditional life are thus illustrated in a dramatic way. In the same vein, an industrial training school has been established in the most hallowed of all Moslem cities, Mecca. Saudi Arabia alone has opened four other industrial schools in recent years, one in the capital of Riyadh and one each in Jeddah, Medina, and Dammam. An agricultural station for training purposes was established at Al Kharj. The ministry of education of Saudi Arabia offers a monthly allowance of $35 to $50 to any one attending an industrial school or taking training in an applied science.

The traditional attitude toward girls at school is also undergoing a significant change. In this respect, too, Turkey took the initiative as part of the revolutionary transformation initiated by Atatürk. As far back as 1926, discriminatory legislation and practices, educational and otherwise, against women were removed. It is no longer "immoral" to send girls to schools, including the coeducational ones in most of the Arab countries. It was only a few years ago that a prominent Egyptian educator complained, "The vast majority of the females has no education at all," and the proportion of male students is still disproportionately high; but the percentage of female students is decidedly on the increase. Although secondary schools in Iraq were opened to girls only in 1929, today they account for about one-fifth of the student body.

Education is even reaching out to the society of the Bedouins and other migrants and nomads. Itinerant teachers, paid by the governments of Syria and Jordan, are attempting to impart a modicum of knowledge, including some secular disciplines, to the children of a footloose culture, employing the largest schoolrooms in the world, roofed over by the endless expanse of the sky. The same attempt is being made in northern Iraq and southwest Iran, where nomadism assumes the shape of "transhumance," migration between the plains and the hills in the different seasons.

Higher Education

Higher education has also been caught up in this cultural maelstrom. The Middle Eastern elite in the past, particularly in the Arab countries and in Iran, usually depended on western prestige schools in Britain, France, and, more recently, the United States. People with more modest social and financial pretensions were content with the American University at Beirut and the equally famous Université de St.-Joseph, operated by Jesuit fathers. For the rest of the population, university education was not part of its way of life. In the Middle Eastern Moslem world, there was only one generally accepted school of high learning, the notable Al-Azhar—"The Shining One"—which is preparing to celebrate the thousandth anniversary of its foundation in a few years. (The Kairoween University in Fez, Morocco, claims to have been founded in 859, the oldest one in the world.)

But even the most tradition-bound

countries of the region are turning now to secular studies on the university level. The King Saud University in Riyadh was founded in 1957. In addition to Arabic and Islamic studies, this four-year university has faculties of science, commerce, and pharmacy. Its 1960 enrollment was 200, and this was considered an auspicious start. In another direction of the Arab world, Khartoum University, in the capital of the Republic of Sudan, was established in 1956 and within two years had a student body of 850. Its non-traditional courses included physics, veterinary sciences, and engineering.

The United Arab Republic has, of course, been under western cultural influence longer than many of the other Arab countries. Her University of Cairo was founded before World War I, and since the revolutionary junta seized power in 1952, higher education has undergone a measure of decentralization. Recently, the University of Asyut was established up the Nile to satisfy the cultural hunger and practical needs of an intellectual elite there.

Such a decentralization characterizes also the academic life of Turkey and Iran. Originally, Turkish cultural sophistication was synonymous with Constantinople. A bipolarization of cultural influence was attempted with the transfer of the capital to Ankara. It was these two schools that had to satisfy the academic needs of Turkish youth for many years. The city of Erzurum, a pivotal center in the eastern highlands of the Anatolian region, obtained a university in 1958. Another school of higher learning will soon be established in Trabzon on the Black Sea.

Even more ambitious is the academic program of Iran. Because the country is large, broken up into isolated sections by vast deserts, cultural centers clustering around universities are especially important. The southwestern part of the country acquired a university in Shiraz, in the province of Fars, an important tribal area. Another important tribal area is Khuzistan province, the capital of which, Ahwaz, has recently acquired a school of higher learning. Two more universities were established in the north, one of them near the extreme West in Tabriz, capital of the third and fourth "ostans" or provinces, and the other in the extreme East at Meshed, capital of the ninth province. Both of them are near the Soviet border.

Costs of Revolution

While the educational revolution of the Middle East has been exerting a favorable influence on the intellectual life of the area, it has also been creating complications. The traditional ways are too deeply imbedded in a region where time stood still for centuries under the Ottoman empire and in a fatalistic Persian society. It is not easy to grasp the meaning of the modern world from a long ingrained, traditional vantage point. Many young people want to study at the universities because, to put it bluntly, they simply do not want to work. A university diploma has often been looked upon as a trade union card to a sinecure. On the other hand, there are other young people who are eager to use their higher education as a means of advancement in life through work. These are particularly the persons who pursue careers in the natural sciences and technology.

The difficulty is with some of the liberal education graduates. What is to be their lot after graduation? Because some of them have the right kinsfolk, they may get the coveted government posts. Others do not have them. It is of some help if they have unusual gifts, but many of the graduates find that although they are ready for the world, the world is not ready for them. They become embittered, leaping to the conclusion that they are unwanted and useless. One encounters these frustrated college graduates nearly everywhere in the Middle East, the angry young men of explosive tempers, grist for the mills of political groups prospering on human despair.

Israel, as has been pointed out, is not situated in the Middle East culturally, and therefore this article has not dealt with her education. It is the only country in the region where laws making education compulsory are observed. No sooner was the state established in 1948 than education was made compulsory between the ages of five and thirteen. The country has been able to draw upon the skills of many nations, including those in the West. It has an agile, dynamic population, endowed with many skills. Many of those skills are in short supply in the neighboring countries, especially engineering and manual aptitudes. It would be of benefit to the neighboring states if these resources could be more widely dispersed. Israel's neighbors, however, shy away from maintaining relations with her. This is one of the great problems of the area. Because of politics, too large a percentage of the national budgets of many of these countries go into armaments. These funds could be turned to much better advantage in building more schools.

As matters stand at present, it may take years before the pressure of a better informed public opinion, created by more widespread education, may induce the diverse strata of the population of the Middle East to work in harmony for the mutual benefit of all of them. No country in the region is affluent enough to be able to afford the cost of creating totally artificial problems, thus retarding their growth. The educational revolution is bound to affect deeply the lives of the countries of the Middle East, in spite of the long stagnation of most of them throughout the centuries.

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Education for cultural integrity: The Ghanaian case

IN GHANA TODAY, we have international schools spread all over the municipal and urban areas, including Accra, Sekondi, Takoradi, Kumasi, and Tamale. Orginally, the aim of the international schools was to serve the needs of European and other immigrants whose children required educational facilities similar to those they were accustomed to in their home countries. It is therefore not surprising that the kind of education provided and the system of acculturation encouraged were quite different from those provided in the local schools.

The local schools were staffed with teachers drawn mostly from the indigenous population, equipped with materials of instruction familiar to the child, and sustained by standards of discipline and conduct which were intended to prepare the youngster for life in his own country. It was in such schools that the children were brought face to face with teachers who shared the same social, economic, and cultural background with their pupils, and who could, in their teaching, draw on this common background. It was in such schools that the children were encouraged to play with each other on the basis of common language and culture and to strive through competition to reach a common goal—to be good citizens of the same fatherland. These schools had their inherent weaknesses, but when one considered that some of them helped to produce the eminent scholars and statesmen of our day, one was bound to add the local schools to the other social institutions which, though they could not claim to be perfect and required constant improvement to suit rapidly changing conditions, nevertheless met essential needs.

The international schools, on the other hand, were staffed mostly with European and other foreign teachers, and their curriculum was carefully selected to suit the future educational needs of children who belonged to the very different societies to which they would one day return. The schools had no homogenous personality, and the problem of adjustment was enormous. Since these schools were meant to serve the children of European and other foreign service men, they presented little or no problem for Ghana.

Independence Brings Change

The position, however, changed after the declaration of Ghana's independence in 1957. Self-government would mean nothing if there were to be small pockets of white masters whose children were to receive special education. To counteract what was considered racial discrimination, the politicians insisted that such schools should be open to all who could afford to pay the fees. The demand was met, and Africans in the high-income group—ministers and ministerial secretaries, members of Parliament, senior civil servants, lawyers, doctors, etc.—began to withdraw their children from the local schools and to send them to the international schools. These men could pay the expensive tuition, but such expense did not prevent some parents in the low-income groups from pushing their children into these special schools also. They were afraid that their children would be left behind if they were not educated alongside the offspring of senior civil servants and ministers.

The position may be illustrated by the following example. A demonstration school in Achimota was originally established for the children of the senior members of staff, professors and lecturers at the University of Ghana, most of whom were expatriates. Later, admission was extended to include the children of *all* the workers of the University. This is what happened: While Professor X (receiving £2,500 per annum, plus an allowance of £150 per annum for each child up to 5 children) had three of his five children (the other two were under school age) in the demonstration school, paying a total school fee of £96 out of his total income of £3,250 per year, Mr. K, a carpenter in the maintenance department of the University (receiving £250 per annum, without allowances), had two of his five children (only one was under school age) in the demonstration school, paying a total school fee of £33.12s. per year out of his fixed total income of £250.

It should be mentioned that Mr. K, an illiterate artisan, could have taken advantage of the fee-free policy of the Government and sent his two children, a boy aged 8 and a girl 6, to the local schools without paying a penny towards their education. Mr. K explained his action in the following way:

> Everybody now wants *better education* for his children. I know what it now means to have better education. I also know what it means to be pushed about as a laborer. I do not want my children to be pushed around by others. They also must be placed in a position to push others about. We have not the money, but I would rather go naked than see my children suffer after me.

Visions of Progress

What is this better education on which the artisan, Mr. K, and others like him, place so much emphasis? I asked Mr. K to explain what he meant by better education. Here is his answer:

> Since my son, T, entered the demonstration school, he can now speak English very well. Whenever I get visitors who speak English, I call my son to speak with them, and they become surprised and congratulate me. I am very proud of it.

Later, I had occasion to examine T. The following observation was recorded:

> T thinks and expresses his thoughts better in English than in Twi, which is his mother tongue. He shows signs of loss of confidence in the Twi language. Rather weak in arithmetic. Seems to be perched in between two worlds—European in thought, African in behavior. Plays reservedly with children in the neighborhood, yet the lack of toys and the special equipment for games he has become used to in school produces in him a sense of frustration and painful disappointment. He shows signs of a missing link in his attitude to life.

Children of illiterate or semi-literate parents who are given this kind of education face enormous problems of adjustment. At school the child does everything in English and plays with children of different social, economic, and cultural backgrounds; at home, he meets an entirely different situation. The parents, the other inmates of the house, and the children in the neighborhood all speak and behave in a different way. There is no continuity of purpose in the child's physical and intellectual development; the demands of the home upon the child do not coincide with, and are often quite opposed to, the demands of the school.

The problem becomes acute and assumes alarming proportions when the international and demonstration school models are accepted and copied as local standards. There are all sorts of businessmen in Ghana today who have found in establishing such schools a profitable business venture. We now have such private institutions as the Penworth School, St. John's Grammar School, and innumerable others, established here and there by private citizens of Ghana, apparently to teach toddlers how to speak and write better English, but in reality with the primary aim of making profit. Despite the very expensive nature of these special schools, parents, rich and poor alike, sometimes go to the additional extent of bribing teachers to have their children admitted in the hope of insuring brighter, English-speaking futures for them.

Owing to the increased demand for such schools, a great number have been hastily constructed, without the clear thinking and careful planning necessary to establish and maintain decent standards. The problem of shortages of European-trained teachers, for example, has had to be solved by recruiting more and more African teachers to do the job. But even though the children are thus placed in the hands of their own African teachers, they are not encouraged to use the vernacular either in the classroom or outside it. The fact that some of these African teachers themselves are ill educated in the English language, however, has introduced new problems and emphasized old ones.

Cultures in Conflict

At Achimota, one of these special schools has developed into a boarding school, where children between the ages of 6 and 11 are away from their parents for several months, receiving what has been called "better education" with its special emphasis on English. It should be noted that the kind of education a child receives here is quite different from the kind he gets when he goes back home on holidays—a state of affairs rich in adjustment problems. This is what a parent of one of these children told me:

> My boy seems to have improved considerably. The education he is getting at school is wonderful. But I must confess to one thing. I do not like the way B (his boy) behaves nowadays. I think there is lack of discipline in the school. It may be due to the boys he has been playing with. He has become stubborn, and refuses to eat with his brothers or to share the same bed with them. He always goes to bed early, but when the other children join him later, he gets up, sits on the bed, and cries the best part of the night, just because his younger brother is sharing his bed.[1] He has become selfish and envious.

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[1] At school the child is served his own meal separately and is trained in the use of cutlery, including European table manners. He has his own separate bed and is made to sleep according to time. At home, in the usual Ghanaian traditional way, the children of the family group together to eat from a common bowl, drink from a common cup, and to sleep (in most cases according to sex) on a common mat.

The European sense of hygiene may regard this as unhealthy, but it has its community sentiment; and what is more, to the traditional Ghanaian, the question of the rules of hygiene is less important than that of the spiritual unity of brothers and sisters.

> I am worried about this aspect of his upbringing.

The father went on,

> Since I sent B to this school, I have spent almost every penny on him. Think of ruinous school fees, the books, the school uniform, the swimming costume, and all the rest of it. This has made it impossible for me to discharge my other obligation towards my sister's son, who happens to be living with me. I have written to my sister to say that I cannot any longer look after her son; she must come and take him away. She has refused to answer my letter, and I know she will not understand me, but honestly, I cannot take over other financial obligations.

Two *new* problems must be quickly noted and added to the old ones. First, parental control is being weakened; second, the foundation of the extended family system, which is one of the props and stays of Ghana's society, is tottering.

These examples could be considered isolated cases had the character of the local schools remained local. But this is not so. Local schools are now laying heavy emphasis on the use of the English language as a medium of instruction even at the infant-school level. This is disastrous, especially when one considers that it is in such schools that the "famous" pupil-teachers play a prominent role in the education of the younger children. The only qualification of the pupil-teachers for handling such a delicate job is that they have had ten years of schooling, had a suspicious "pass" in English, and have run through a hasty three-month course in teacher training.

This question must now be asked, what type of society do we want to create through education for our children? There have been two schools of thought. The first is the *international-cooperation school of thought;* the second is the *African-personality school of thought.*

The international-cooperation school holds that English should be given priority in our schools to further international communication and understanding. Its proponents argue that Ghana has no national language which could be used as such, and that even if it had one, it would be limited to Ghana; consequently, this situation would create a sense of isolation which would affect the nation's political and economic progress.

The African-personality school has never defined its policy so far as the problem of language is concerned, but some of its exponents have maintained that the schools, from the primary to the university level, should be made to wear African character, to portray or express African cultural traditions and beliefs in all their forms. They maintain that the schools should not be based on foreign institutions; neither should they be made to produce students with a European orientation or with hybrid personalities. If this ideology should be given its fair interpretation (and it should), then because of its foreign character, the English language should be proscribed or made to take a second place in the African (Ghanaian) schools. Although the African-personality school has the reputation of flouting foreign institutions, scoffing and treating some of them with scorn, it has yet to make positive suggestions about the African institutions which could profitably supplant the European ones that are criticized. This deficiency should not, however, disqualify the point of view as a legitimate and potent one to be reckoned with.

Capitulation or Babel?

The arguments of the two schools of thought are of great interest sociologically. How can a society like Ghana's still be a full-fledged African state without suffering cultural conflicts or a loss of some cultural prestige if it continues to allow English to be used as a medium of instruction in its schools and as its official language? On the other hand, how could one of the many local tribal tongues be selected, accepted, developed into a national language, and used in both schools and official circles? What other adjustments would have to be made as far as international relations are concerned, and what type of society would develop after such changes? The sympathy of the sociologist and the cultural anthropologist seems to be with the preservation and development of the African personality through the perpetuation of indigenous cultural traditions, but the issue is not simple.

The importance of language as a vehicle of expression cannot be overemphasized. A visiting Chinese scholar recently had this to say:

> I always have two different meanings when I describe an object in Chinese and in English. Some of the Chinese words which give a vivid interpretation of our worldview cannot be found in the English language. Neither can they be accurately translated in English to mean the same thing. I prefer to write my poems in Chinese, and I always feel I have done justice to my feelings when I know I have said what I have wanted to say in the way I have wanted to say it.

This expression recalled to memory some of my own experiences in research. Watching one of the chief priests of Manya Krobo in Ghana, the Priest of Okomo Madjanor, pour libation at one of the Nmayem Festivals, I was overwhelmed by the way he used his native language to interpret his world of people and things to the gods and to his ancestors in the other world. He began his libation with the history of the State, recalling the individual role played by innumerable chiefs (past and present) in an impressive order of succession, and ended by praying for the State with a musical fluency and logical consistency that no amount of English education could have made possible for him. On another occasion, after analyzing the praise-chants of a musician recorded in the court of one of the chiefs of Northern Ghana, we were left gasping at the wealth of information and depth of philosophical thought that flowed through the language of the illiterate musician. Some of the words had to be left in the vernacular in order to preserve their full meaning. No substitute could be found in English, and it was an adulteration to replace them with mere approximations. A similar thing could be said for the talking drummer, who uses the native language to command the elements of the universe and to make them bow to the whims and needs of human society. It is no wonder that such authentic African personalities, no matter how poor they are, are highly respected and admired in the Akan Society of Ghana. Language is the foundation of society and the root of culture. This is why every society must preserve its language if it does not want its foundations to be destroyed. It is in this respect that those concerned with the African personality have an argument which confutes all opposing ones.

A Proposed Program

What, then, should be the position of the vernacular in our educational system? The answer is simple. Vernacular must be given top priority. One of my own deficiencies in life is the lack of ability to express myself sufficiently in either English or vernacular. As an African, I cannot learn English adequately, however much I try. On the other hand, I cannot speak or write my own language very well because I lack an effective education in it. This state of affairs must be changed.

The problem of language in the Ghanaian school may be solved by making the following languages compulsory:

1. Vernacular (to be heavily weighted)
2. An acceptable African language, Hausa or Swahili (to form the basis of a common language among the African nations)
3. English } (for international communication)
4. French }

Children in the primary schools, between the ages of 5 and 11, must be given a sound basis in the first three languages, with special emphasis on the vernacular. French can be left to students in the middle, secondary, and university levels, where an extended and specialized instruction in the first three languages should also be given. Latin, Greek, and the other old fashioned, almost useless languages, could be dropped to make the language commitment of the students less heavy. The adoption of such a program may make Ghanaian—or any other African society—more flexible both locally and internationally, with a minimum of loss in cultural integrity. The preservation of a language may not be sufficient to preserve a culture and its authentic reflection in personality, but it clearly is necessary.

Contributors

The great issues of our day, all of which deeply affect the educational enterprise, are likely to be so large in both their challenge and their complexity that most of us find our feelings well represented in the opening lines of *A Tale of Two Cities:*

> It was the best of times, it was the worst of times... it was the season of Light, it was the season of Darkness...

However our moods may oscillate, the issues remain, and among the greatest of them are those associated with the ever tighter web of relationships in which the nations of the world find themselves. This month, the *Record* publishes three reports from exotic and crucial parts of the globe. Mr. **Nicholas DeWitt,** author of the monumental *Education and Professional Employment in the USSR,* presents "The Soviet Student: Profile and Prediction," adapted from an address last April to a conference sponsored in New York by the Magazine Publishers Association and the National Association of Secondary School Principals. Professor **Emil Lengyel,** the historian and author of such books as *The Changing Middle East* and *They Called Him Ataturk,* comments on the educational revolution in the countries of the Middle East. And Professor **K. Ampom Darkwa,** a Ghanaian sociologist on the staff of the University of Ghana in Accra, reports in both personal and professional terms on some of the educational tensions in his important African nation.

If the family of man is to live together peacefully and productively, then it must achieve some of those understandings that have been the perennial concern of the humanist. Since the humanistic vision is often embodied in art, it is quite fitting that art as a humanistic study should be the topic of Dr. **Roy Harvey Pearce,** Professor of English at Ohio State University and author of the recent *Continuity in American Poetry.* Nor will one find a lack of regard for humanistic values in this month's debate on a very different educational issue, the proper use of teaching machines and programed learning. Two educational psychologists in the Division of Teacher Education at the New York City Board of Higher Education, Dr. **William Rabinowitz** and Dr. **Harold E. Mitzel,** take the "pro" side of the argument; the "conman" is Dr. **Joachim Wohlwill,** a developmental psychologist on the faculty of Clark University in Worcester, Mass.

The pervasiveness of the humanistic outlook is also reflected in the discussion by Dr. **Alan Waterman,** Director of the National Science Foundation, of how education can be the instrument by which the burgeoning venture of science can be better integrated with the overall requirments of the good society. Dr. Waterman's contribution is adapted from an address given last spring at the famous Cooper Union in New York City. Similarly, Dr. **Ija Korner,** a clinical psychologist at the University of Utah, brings a genuinely broad and humanistic perspective to bear on the problem of mental health in his essay-review.

Finally, the method of the humanist—the historical approach and the philosophical stance—is clear in the scotching by Dr. **W. H. Cowley,** Jacks Professor of Education at Stanford, of some persistent myths about American higher education. Dr. Cowley's amusing and informative piece was originally presented as one of the Kennecott Lectures last summer at the University of Arizona.

It is evident that humanism is everybody's business so long as human beings last. May it be forever!

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The arts, humanism, and the process of education

Consider the situation of all of us concerned with the arts in education and with education in the arts: We are both as individuals and as a group torn apart on the one hand by our need to achieve some sort of expertise in our specialisms and, on the other hand, by our compulsion to be educators-in-general. And to quiet our anxieties, we too often get together in conventions assembled and make grand promises which are impossible to keep. For should we keep them, we would have to transform ourselves into teachers who, because they know so much about everything in general, could not know anything about anything in particular. Let me say at the outset that I am somewhat restive with our tendency to apologize for our specialisms, and I am a little bemused by all this fuzzy talk about general education. For I am convinced that only through the cooperative exercise of our specialisms may we define general education as what it really should be—the education of the whole man, not the reconstituting into a specious, *ad hoc* whole of the total curriculum—humanism's version of that pandemic disease, togetherness. And when I speak of the "whole man," of course, I come directly to the core of the subject.

Profession of Humaneness

I begin, because it is the way I have been taught to work in *my* specialism, with a text:

> Humanistic scholarship is nothing more than the professional employment, for professional purposes in the humanities, of technical modes for the advancement of knowledge. An archaeologist dusting off potsherds, a linguist restudying the forms of verbs in Old High Germanic for sleeping and dreaming, a student of Sartre trying to distinguish the effect on the For-itself and the In-itself of the principle of destruction, a bibliophile establishing priority between two variants of an old

Under the title "Art as a Humanistic Study," the substance of this communication was delivered 23 March, 1961, at a meeting of the National Committee on Art Education in Columbus, Ohio. I have tried to revise my words so as to make them less speechifying. But I have felt obliged to retain enough of the original rhetoric to give my reader a sense of their original occasion, on which I, as an outsider, was asked to suggest how a group of art educators might more sharply define the vocation we share. The occasion was urgent, and continues to be. And I am grateful to the National Committee that the invitation was delivered in such a way as to let me speak so freely and frankly and to the editor of this journal for inviting me to publish my words here.—RHP

> book, an art expert proving that a Rembrandt print is a forgery, a musicologist passing on the authenticity of a score supposedly by Orlando di Lasso—men such as these are adding to knowledge in their several fields and are therefore practicing humanistic *expertise*. But the "humaneness" of their outlook will have precisely as much and precisely as little to do with their professional success as it has to do with the professional success of economists, chemists, newspaper editors, football coaches, or theologians. They will not be humane because they specialize in the humanities; they will be humane only in proportion as they interpret what they do philosophically.

These words—they are from Howard Mumford Jones's wise little book, *American Humanism*—may launch us into our inquiry: We become humanists when we would interpret what we do, our "specialisms," philosophically.

But note in the first place that Professor Jones does not include among his sampling of modes of humanistic expertise "education"—or "educationism" or "pedagogy." I should guess, for a reason I shall presently specify, that he would not consider this an oversight. But, granting our present discontent over the situation in American education, I regret the omission. For I am convinced that, even with its necessary reliance on the great range of the behavioral sciences, education—defined as the "educational process"—is in point of fact a humanistic study, and that the task for "educationists" in our time is to realize the implications of that fact. After all, as Professor Jones is making quite clear, each of the modes of humanistic expertise is, to a significant degree, a "science" in so far as the expert employs the descriptive, analytic, and quantifying techniques of the "sciences" as a necessary first step in doing his job. And indeed, as scientists are increasingly telling us, as soon as they would "use" the results of their work, as soon as they would make their work "instrumental" to what Professor Jones calls "humaneness," they become humanists. In education as well as in our other concerns, we have surely mistaken the *kind* of difference between the sciences and the humanities and so become liable to that social schizophrenia which Sir Charles Snow treats of in his by now notorious lectures on *The Two Cultures*. The work of humanists, in the traditional sense, clearly demonstrates that "science" is neither anti- nor non-humanistic, but, as it were, pre-humanistic. Or perhaps we should say that "science" is a necessary condition of "humanism"—our means of making our humanism "corrigible" from the outset. "Education," defined as the "educational process," then, should above all be the discipline whose necessary condition is a conception of how the "scientific" becomes the "humanistic"—how behavior, knowledge, understanding, and action together might make for "humanity."

Philosophy in Teaching

And note in the second place that we humanists (for so I claim we all are) undertake whatever task our "expertise" points to with the conviction that in the end the results of our specialist investigation will be interpreted philosophically—by us or by someone else. We move thus from the pre-humanistic to the humanistic. To a degree, of course, it has always to be *our* move: The initial decision to become expert, to adopt a specialism—however instinctive or intuitive we may claim it to have been—surely involves our act of philosophical interpretation. But we may say that we never "publish" to the world any explicit philosophical interpretation of the objects we study as specialists. I think, for example, of the textual scholar or the archaeologist. Still, we publish it to a special world, that of our classrooms and the students who come to us in them. Indeed, I sometimes think—where I am personally concerned, I always think—that that unexamined, prior act of philosophical interpretation always carries with it a sense of a teacher's relation to his students. For the modern humanist, the classroom is nothing less than a category of thought, like time, space, causation... (I suspect that it is so for Professor Jones—thus, his omission of "education" from his sampling of modes of humanistic expertise). We carry to all our investigations a sense of our involvement with students—students being our name for people prepared to receive what we would give them in the manner in which we intend it. We are in the best sense *academic* whenever we try to establish the text of a poem or to discover its author's *Weltanschauung;* whenever we would establish the chronology of a group of paintings, or discover their origin, or lay bare the methods and materials with which their makers worked. The, as it were, aboriginal decision to perform an act of humanistic expertise is to a marked degree a *teacher's* decision or, at least, a decision made with the expectation that someone will use one's "results" in teaching.

The humanist's focus thus is on students: on himself as a student; on his peers as his fellow students; on the students in his classroom; on men at large as his potential students. It follows that for the humanist, philosophical interpretation, whenever it comes, however it comes, is intimately tied up with the humanist's conception of the student and, of course, with his conception of himself as student. The humanist, then, defines man as a student. And he is aware of the ambiguities of the word: from Latin *studere*—"to be zealous or eager, hence to apply oneself fully to." Such application, eagerness, and openness has its natural dangers. For from *studiosus* ("eager"), we get, through "studious," pronounced "stoojus," the word "stooge": he who is the butt of not only a comedian, but of a teacher. Indeed, the humanist knows how easy it is to become his own stooge—the stooge of his own ideas, of his own expertise. The mission of the humanist, then, is through his expert working in his specialism to do something that will add to man's capacity to learn and to make coherent what he has learned; not to dominate the world in which he lives, nor to be dominated by it—but to learn to live in it, with it, through it. He is bid teach his fellows how to come to know that center of the human spirit which will hold.

Interpreting the Center

Note that I say "how to come to know that center." The humanist cannot, in the nature of his enterprise, guarantee or even hope for a direct vision—unmediated, as in some sort of mysticism. (Isn't it curious, or symptomatic, how often we are asked in our time to furnish such a guarantee?) The humanist knows objects in the world, and he knows that man is, in all his strength and weakness, at their center; and he knows that his mission is not only to find the objects, write their history, describe and analyse them, establish exegeses for them, but to bring his fellows to know them—in, among other forms, art.

In the long run, the history we may write, the exegeses, descriptions, and analyses we may make, the combinations of these we may teach—the methods by which we may teach them—all can be subsumed under one term: *interpretation.* Recall Professor Jones's words: What we do will "be humane as (we) interpret what (we) do philosophically." In other words, as humanists we are all interpreters. And to justify our humanism, or our way with our humanism, we must have a *philosophy of interpretation.* Art education, or any other kind of education, is a humanistic study to the degree that it is grounded in its own special version of a humanistic philosophy of interpretation. (Or shall we be more modest, perhaps more accurate terminologically, and say a *theory* of interpretation? And then note that a theory, put into action, is a *discipline*?) We must thus strive to account systematically for all we do—strive on philosophical or theoretical grounds, according to a logic which we dare carry out to its fullest implications. In effect, we must bring to full consciousness the implications of that aboriginal decision to perform our acts of humanistic expertise—that is, to become, in one of many valid senses, humanists. We must not only mean what we say and do; we must know it. We must ask first and foremost what it is, what is entailed by, what it really means, for us to have decided to become humanists.

The answer is quite simple, although working out its implications for art education or any other kind of education is terribly difficult. Indeed, the difficulty which the professional humanist daily confronts derives from his obligation to work out the implications of that deceptively simple answer. The simple answer is this: To be a humanist is to be committed to the idea of the dignity of man. To be a humanist entails the discovery and exposition of objects in our world which themselves show evidence of that commitment. To have decided to become a humanist means to have decided to accept the fact that only through his consciousness of his being locked in time and history, in his specifically *human* condition, can man realize his potentiality for dignity and worth.

The full implications of the answer are, of course, too difficult and complex for me to venture working out here. Anyhow, I don't know enough to do so. But then we all work them out, work them through (to borrow a useful psychiatric term), live them out, as we do our jobs day-to-day. Recall Professor Jones's list of the kinds of professional expertise humanists may practice, and also my qualifications of his list. This is a sampling of our lives day-to-day. I have said that such kinds of expertise can be subsumed under the term *interpretation.* And it follows: The logic of our kinds of interpretations center on the logic or faith or both whereby we would make plain our idea of the dignity of man. On this idea we stake our claim that there is a unity of knowledge—or must be. As man is one and whole, so must his knowledge be, including his knowledge of the fine arts. It might well be that in his knowledge, in his knowing, man *makes* himself whole.

Confronted by Dignity

I suspect that in our time our big problem as humanists derives from the fact that it makes us uneasy, not to say anxious, to ask what it really means for us to have decided to become humanists. We are so deeply aware of overwhelming threats to the very existence of man that we are too busy, therefore unprepared, to ask who he is that he not only does but should exist. When we ask fundamental questions about our profession, we tend to confuse this normal anxiety with the abnormal, neurotic anxiety which comes when we wonder if we will be here in, say, 1984. And so we tend too often to take refuge in our special kinds of expertise. (We say, for example, that our business is merely to recover this text or this painting as it was and is; or, at the other extreme, that we teach the student, not the subject.) Or, uncomfortable with the fragmentation which results from our compulsion to such specialism and expertise, we hide in the fog-banks of general or generalized education. Taking either alternative, we have shut out of consciousness the implications of our decision to be humanists, to be experts in one of the humanistic studies.

But of course we whose humanism consists in a dedication to the idea of art, if we dare ask ourselves what we are *really* doing, cannot avoid confronting the idea of the dignity of man. For art is human dignity in one of its most significant—because most signifying—forms of action. And our professional expertise has as its end putting our students in the position to know how to interpret that action. So doing, they may interpret themselves as yielding, assenting, understanding the work of art; they may partake of the aspect of human dignity it projects, partake of it in that heroic kind of mimesis we call "esthetic experience." We live in a world in which life is as difficult as art. This has always been so. But now we also have a world in which, through the tranquilizing effects of the mass media, life can be so falsified as to seem much simpler than art—and then art in turn can be simplified to comport well with life thus falsified. In such a world, we must all the more seriously seek to learn what we have in common as humanist-educators: as students, not stooges. First and last, our decision to be humanist-educators reflects such a faith. But, by way of a reminder, let me quote some famous words:

> O supreme generosity of God the Father, O highest and most marvelous felicity of man! To him it is granted to have whatever he chooses, to be whatever he wills. Beasts as soon as they are born... bring with them from their mother's womb all they will ever possess. Spiritual beings, either from the beginning or soon thereafter, become what they are to be for ever and ever. On man when he came into life the Father conferred the seeds of all kinds and the germs of every way of life. Whatever seeds each man cultivates will grow to maturity in him and bear in him their own fruit. If they be vegetative, he will be like a plant. If sensitive, he will become brutish. If rational, he will grow into a heavenly being. If intellectual, he will be an angel and the son of God. And if, happy in the lot of no created thing, he withdraws into the center of his own unity, his spirit, made one with God, in the solitary darkness of God, who is set above all things, shall surpass them all. Who would not admire our chameleon? Or who could more greatly admire aught whatever?

The words, of course, are those of Pico della Mirandola from his late fifteenth-century oration on the dignity of man. We perhaps would not be so sure of man's capacity to be angelic or of his potentiality to be one with God. Or maybe we would. As humanists, since these are ultimate, transhuman goals, we don't have to make up our minds on such matters. But that it is man's felicity to have whatever he will have, even his own destruction; to be whatever he will be, or at least to *imagine* himself being what he will—it is this which we believe in when we believe in the life of art as central in the life of man, a sign of his dignity. O marvelous felicity, and marvelous misery, of this chameleon, ourselves, our students, our fellows!

Pico in Three Guises

But, lest Pico's words overwhelm us, let me quote three modern versions of them, all of which show that, although now somewhat constrained, they still hold for us. Quoting them, I shall get into a more direct discussion of the arts and humanistic education. First:

> (The reality we know is one) in which our revelations are not the revelations of

> belief, but the precious portents of our own powers. The greatest truth we could hope to discover, in whatever field we discovered it, is that man's truth is the final revelation of everything. Poets and painters alike today make that assumption and this is what gives them the validity and serious dignity that become them as among those that seek wisdom, seek understanding.... (We must bring) poetry and painting into relation as sources of our present conception of reality, without asserting that they are the sole sources, and as supports of a kind of life, which it seems to be worth living, with their support, even if doing so is only a stage in the endless study of an existence, which is the heroic subject of all study.

These words are those of the poet Wallace Stevens in an essay called "The Relations between Poetry and Painting." Second:

> Men are not only capable of aesthetic experience. They are also from the beginning capable of making works of art and of enjoying them as works of art. Aesthetic experience is a necessary part of any enjoyment of a work of art; but it is not the whole of it. A work of art is also enjoyed as a form of communication between men, as an expression of feeling and as a celebration of some facet of experience.... That human beings are at all levels of culture capable of producing and enjoying works of art ought not to be accepted as a contingent fact, unrelated to their other essential powers of mind, to their capacity to form societies held together by conventions and to speak a language. Men altogether without art, like men who never dreamed or played or pretended, or who never entertained wishes that they knew to be unrealisable, would be men in a state of nature, more like animals than men.

These words are those of the philosopher Stuart Hampshire in his *Thought and Action.* Third:

> The experience of art is by way of enriching a quality of human experience, and of reaching a precision in the choice of values. It is a particular kind of experience which requires for its fulfillment a discipline, freely undertaken, a knowledge firmly grasped, a heightened consciousness, and an intensity of interest in the creative and imaginative aspects of human life. It is not an experience which takes the artist out of the material world or out of the context of his society, but an experience which moves through contemporary reality into newer levels of awareness of what human society is.

These are words of the philosopher and the educational administrator, Harold Taylor, in a lecture given at the twelfth annual conference of the National Committee on Art Education.

Off the Cultural Center

I have quoted these words in this order because, even as they all center on the problem of art as a humanistic study, they move progressively toward a more specifically pedagogical emphasis. And likewise, I have intended my words today to move toward this emphasis—first, a consideration of the implications of our aboriginal decisions to be humanists; second, a brief explication of the idea of the dignity of man on which those decisions center. And now, a consideration of the immediate question: How, equipped with our various kinds of expertise, teachers all, may we together hope to give our enterprise once more a central position in the life of our culture?

For we should not fool ourselves. The life of art is *not* central to our culture. The hopes of mass education, of democracy, of the rationalization and technification of culture—all have been largely frustrated. We have the capacity to make the good things of this life available to a larger and larger public. The role of the humanist-educator is to do just this. But the life of art is not a vital matter for so many of our students. Yet —and this is the terrible irony which must haunt us all—we know that it *must* be.

For in an essentially secular culture, the traditional carrier of value-laden symbols, religion, has lost much of its power. The process began, so historians tell us, in the Renaissance. Pico's assurance that man's dignity was God-bestowed somehow was transformed into an assurance that, having bestowed dignity on man, God would let him do for himself; and then into an assurance that God wasn't involved at all—that man had bestowed his own dignity on himself, that if there was a God, He was merely man. For a time there was a hope, among artists and their interpreters at least, that, since religion was just a form of art whose style had lost its power to compel men to belief, art was really religion, but in ever-new, ever-renewing styles. The net result was that artists, late romantic artists in particular, hoped for a religion of art. But this did not work. As we know too well now, when art claims to be a surrogate for religion, it makes promises, guarantees, which it cannot keep. We may now be more modest in our claims. Art, we say, is a form of humanism. Art may ultimately devolve from religion or may ultimately lead to religion. But whatever its *ultimate* ground, whether or not it does in fact have an *ultimate* ground, whether or not there is in fact an *ultimate* ground, art differs from religion in its abiding emphasis on the *proximate*—man in his world, man as he is. And its role today must be this: not entailing religious commitment, but not ruling it out. Considered thus, art may once more become central to our culture, a carrier of value-laden symbols whose bearing is proximate, on this world. Indeed, this is what Wallace Stevens, Stuart Hampshire, and Harold Taylor are in effect saying to us. And I think the detaching of matters of art from matters of religion is one of the major achievements in the theory and philosophy of art in the last fifty years. The dignity of man is, in experience considered humanistically, a fact of life. Its possible origins and ends are out of the humanist's province; the uneasiness with which he might well live with this fact is itself a fact of life, humanistically considered. In our time, all humanists are, in a general sense, existentialists; perhaps they have always been. I am reminded of some words of the dying Henry Thoreau. A comforting friend visited him and asked him what he thought heaven would be like. But with the authentic humanist's courage to live with the unknowable, with what John Keats called "negative capability," Thoreau put the friend off by saying, "One world at a time."

The Role of Art

What then is the role of art, and all of us as art educators, in that one world? I think it is essentially involved with man's power to realize his potentiality for dignity by making sense out of the sheer givenness of his world, his world taken as a medium. The medium—whether it be plastic, tonal, or linguistic—has built into it the ways in which it has been used before as tradition, or history, or style—in all, as meaning. Man's problem—the problem which, on his behalf, the artist undertakes to solve—is to give his world, and himself in it, an inclusive coherence. Great art is complex because the relationship of man to his world, thus defined, is complex. When we say of a work of art that it is whole, perfected, all there, organic, totally formed—we are saying that he who has made it has realized, in an immanently holding interrelationship, all the potentialities in his medium, and he has thereby added to it his own potentiality as man, as maker, as creator. His achievement is "technical" because it has demanded of him that he find such means for working out his problem as call forth from him his potentiality as, in the highest sense, technician—what used to be called a "maker." But his technique is a means to an end—realizing and projecting man's dignity, then understanding it, the better to live with it and the burdens it imposes.

If, as in much modern art, the technique is itself claimed to be an end, the case is all the more complicated. Because now the aspect of man's potential dignity which is emphasized is his potentiality for being a "technician." Much modern art is limited precisely as man's conception of himself in our trying times is limited—limited by the fact that technification and the like in our "organized" society would bid him admit that specifically human making, human creativity, human "techniques" no longer are viable. The modern artist is compelled to emphasize, to rescue, to save, perhaps at the expense of much else of importance, "technique" as a mode of human dignity—to define "making" as "technique." This is, let us say, his "mission" in our world—a mission we can account for by doing a little serious investigation into the history of nineteenth- and twentieth-century culture. "Making" or "technique" constitutes a specifically artistic mode of humanism for our time. If the artist would save us piecemeal, so be it! Surely this is better than trying to save us whole when we know, in fact as opposed to theory, no whole—unless it be a whole of the sort envisaged by, say, Selden Rodman:[1] a whole at whose center there is togetherness churned by the power of wistful thinking, not the human spirit slouching toward Bethlehem, maybe to be born into wholeness again. If the modern artist's back is against the wall, that is because modern culture's back is against the wall.

Means and Man in Art

I think of much modern "pure" poetry as well as much modern painting and sculpture and music. I think of the modern artist's compulsion to write poems about poems, and to make paintings—which if they can be said to be *about* anything—are about paintings. So much of our greatest modern art is art in action, art *as* action, its end to authenticate this mode of action in our time. As it were, not discourse, but grammar and syntax and their foundation in the psyche; not statements, but the way that statements might, should, be made; not messages true or false, but the means to messages authentic or inauthentic. Indeed, the measure of the present crisis in humanism, of the dignity of man, is the crisis in the arts. How make statements (like this one, for example), when you are not sure as to the nature of the authentically human way to talk? The point which even we, who should know better, tend to forget is that the glory of art in our time is that it furnishes us the means to measure, thus to begin to understand, the very thing it measures—*ourselves* as we would make discourse, statements, messages, even speeches. Its special mission is to teach us to catch ourselves in the act of being ourselves, so to give us a sense of the possibility that we can indeed compose and thereby be ourselves, our best selves. Thus, it evokes our sense of the perfectibility of "techniques" of composition and of their limitations, too. But the limits of art, the limits of any art in any period, are *not* the limits of humanism.

I emphasize this matter of "technique" in modern art and the resultant concern with "media" because I think that as educators, we have, with a certain amount of *hubris,* too quickly followed our major artists here—probably because we too would be "creative," about which more a little later. We forget that the artist always deals with the facts of the *present* case, while we can and must set the facts against history, tradition, potentiality, and circumstance. If the artist's motto is *carpe diem,* the humanist's is *carpe saeculum.* In the teaching of literature, the great development in my professional lifetime has been the introduction, or reintroduction, of an essentially "formalist" or "contextualist" approach, usually associated with the so-called New Criticism. Against the emphasis on historical backgrounds, biography, and textual scholarship—more important, against the uncontrolled impressionism which went, as a kind of corollary, along with such "scholarship"—the New Critics, poets many of them, taught us to keep our eye on the poem and its movement, taught us that interpretation was no more and no less than explication. It is my impression that a parallel or analogous development has occurred in art education. But in much art education, the emphasis follows even more closely the emphasis in modern painting—that is to say, on the creative process itself. As far as I can judge from looking into textbooks and making discreet inquiries, the tendency is to teach the student to see by doing. Thus, if he gets to a course in "art appreciation," he is taught primarily to know "formal" values—organization, composition, realization of potentialities of the medium, and the like.

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[1] I must add that Mr. Rodman, it seems to me, thereby does not do justice to many of the painters (and poets) about whom he writes.

Creativity, an Error?

The mistake—for I think it is a mistake—perhaps derives from our confusion over that damnable concept, creativity. And our confusion in turn, I think, derives from our neglecting our essential humanistic role, which should mean a central concern for the dignity of the whole man. For though they are related, making poems and paintings and the like is not the same as knowing them, understanding them, interpreting them, I daresay "using" them. The artist as humanist and the educator as humanist are by no means identical. (But we all know many who successfully play both roles.) My own generation of literary humanists grows restive with the "formalism" it has been taught, yet does not want to return to the vitiating form-content dichotomy and the resulting impressionistic appreciationism against which the formalist critics rebelled. As a result, we too see how formalist analysis can be the means to the study of literature-in-history or literature-in-culture. We say we want to understand the history which literature makes, not the history of literature; we want to understand history *in* literature, literature *as* history. For it is *our* history, our history as men; and we know that literature is a prime means of our assessing our dignity as men in history, as we take a sense of history, so conceived, to be an (unavoidable) aspect of ourselves as men. We want, in short, to move from explication to interpretation. And I gather that among art educators there is a corresponding sense. Indeed, we literary humanists are beginning to borrow some concepts from humanists in the fine arts: particularly the concept of style as it has been developed by art historians, and also the concepts of iconology and iconography.

Art education, education in *any* of the arts, cannot do its job properly if it does not discriminate between the need for all men to be creative and the tremendous variability in the value of their creations. Unless as educators we keep alive a sense of the value of creativity *per se,* we shall never bring to full fruition the ability to discriminate between first- and second- and third-rate creations—not to say fourth- and fifth-rate, and so on... But at some point, we must differentiate for ourselves (and for our students and for the public at large) between doing and knowing, between being creative and recognizing, acknowledging, and appropriating the creations of others—the best among us, our authentic artists. For one of the limits of man, one of the things which he must acknowledge if he is to be truly dignified, is that it is given only to a few men to create great, or even almost-great, works of art; while it is given to many men (Most men? All men?) to know them, to interpret them in such a way as to know them, and to acknowledge the greatness of the few as projecting the aspiration to greatness of the many. As humanists, we surely know this. Then as art educators, which is to say humanists of a special sort, we must teach this.

Humanistic Making

For what do we mean by "creativity"? We had better make sure, better make sure that we tie it to what we mean by "human" and "humanistic." Our definition must be implicated in an acknowledgment of humility, limitation, and frailty which we need to make before we can speak of the "dignity" of the "human." I am reminded of a passage in one of those academic-type novels which gifted professors seem now to write as a matter of routine. In one of these novels, a man from a Foundation puts it well: He says,

> You know what they're all talking about now? "Creative." They all want to be creative about something. The word is sweeping our campuses like wildfire: it threatens to replace "semantic." It's like the New Look in Washington—more of the same, but more confused.

But let me try to be *un*confusing. I think we who teach the arts should mean by "creativity" the potentiality of all men to make their knowledge, not the objects of their knowledge: to know themselves in art; not, unless they are specially gifted, to make the art which they know. If they do make that art, as humanists we should be overjoyed, but take no credit. We should just hasten, and teach our students to hasten with us, to know what has been created—and so, in a humanistic fashion, to create, or re-create, ourselves.

For this is what humanistic education in the arts does. It teaches men, through knowing art, to know themselves; through interpreting art, to interpret themselves; through knowing creations not to create, but to re-create themselves. Having done so, men must acknowledge the fact that it is the creations of others, men larger than they, men whose lives are larger than theirs, which have furnished them the means to such knowledge. And assenting to themselves, they perforce assent to others—to the dignity of others.

I sum up my sense of our problem thus. We must learn to keep within the not-so-narrow area between two extremes if we are properly to conceive art education as a humanistic study and to act according to our conception. We are given to, therefore bounded by, two extreme tendencies—on the one hand formalism, on the other, general educationism; on the one hand, creativity for the sake of creativity, on the other, synthesis which is not synthesis but homogenization; on the one hand art, on the other, general culture. As humanists, we know art. We do not make it. We strive to understand art, intrinsically, as it is at once of general culture and above it, as it is our means of getting a particular set of aesthetically derived perspectives on it. If our approach is historical, we must remember that the history is not of works of art considered as "pure," somehow a-cultural objects, but of objects so deeply involved in our general culture that they may be our means of "purifying" our knowledge of ourselves. So far as the humanistic studies are concerned, the history of any art form is the history of the dignity of man in action; and the dignity is one to which we all, even if we aren't artists, can conceive ourselves as very possibly aspiring. To make a work of art is to work a transformation on reality; to know a work of art is to yield to the transforming effect and thus to the kind of world in and for which the work of art was made. Thus we participate imaginatively in the transformation and enlarge our conception of the ways whereby men have realized their dignity and willingly paid the cost for the realization. Only recall Wallace Stevens's words as I have quoted them:

> The greatest truth we could hope to discover, in whatever field we discovered it, is that man's truth is the final revelation of everything. Poets and painters alike today make that assumption and this is what gives them validity and serious dignity that become them as among those that seek wisdom, seek understanding.

We could add to this only that poets and painters have always made that assumption. Art as a humanistic study entails understanding the assumption and learning to live with it. Thus it is one of our basic means of learning to live with one another. For through it we learn how men have always lived with one another and just might continue to do so.

From Melville to Stevens

Let me close with an exercise in literary interpretation. As such interpretations so often tend to, this one amounts to a parable.

In April 1851 Herman Melville wrote a famous letter to Nathaniel Hawthorne. He cast it in the form of a meditation on *The House of the Seven Gables*, recently published, which he had just read. He wrote,

> There is a certain tragic phase of humanity which, in our opinion, was never more powerfully embodied than by Hawthorne. We mean the tragicalness of human thought in its own unbiased, native, and profounder workings. We think that into no recorded mind has the intense feeling of the visible truth ever entered more deeply than into this man's. By visible truth, we mean the apprehension of the absolute condition of present things as they strike the eye of the man who fears them not, though they do their worst to him....
>
> There is a grand truth about Nathaniel Hawthorne. He says NO! in thunder; but the Devil himself cannot make him say *yes.*

"The apprehension of the absolute condition of present things ... " Is not this a fine phrase for what we acknowledge as great art? To say "No! in thunder" if one has to: Is not this a mark of the great artist? And, of course, Hawthorne also says *yes*, as did Melville himself; as do all great artists. But they say it *themselves,* not because the Devil, or even God, bids them say it. In this inheres their sense of dignity—and through their work, a projection of ours, the possibility of ours, ours as it might well have been. The range of possibility is tremendous; it is the range, through time and space, of the arts as humanistic studies. For the humanist, the present, whose absolute condition the artist fixes upon, is not only now, but yesterday, and the day before, and the day before the day before. Accordingly, the humanist's mode is not the creative, but the re-creative—that of the disciplined understanding of art in the history of culture.

But, to complete my parable, let me

quote from another artist, once more Wallace Stevens. Stevens took up Melville's theme some hundred years later in a little poem called "The Well Dressed Man with a Beard":

> After the final no there comes a yes
> And on that yes the future world depends.
> No was the night. Yes is the present sun.
> If the rejected things, the things denied,
> Slid over the western cataract, yet one,
> One only, one thing that was firm, even
> No greater than a cricket's horn, no more
> Than a thought to be rehearsed all day, a speech
> Of the self that must sustain itself on speech,
> One thing remaining, infallible, would be
> Enough. Ah! douce campagna of that thing!
> Ah! douce campagna, honey in the heart,
> Green in the body, out of a petty phrase,
> Out of a thing believed, a thing affirmed:
> The form on the pillow humming while one sleeps,
> The aureole above the humming house...
> It can never be satisfied, the mind, never.

The self, to whose defense we are all dedicated, on whose behalf we mount our offenses day-by-day—the self sustains itself not only by speech in poetry, but by color and texture in painting and sculpture, and by tone in music. This Stevens of all modern poets knew best and declares again and again in his poems. He knew well, too, as in his creations he helps us know, that as art educators, as humanists, we must teach men to say no so they can say yes; teach them to live in, to glory in, to see their dignity in those dissatisfaction-embodying works of art which are in themselves sources of satisfaction. The satisfaction is that which comes from knowing what it really is, what it really has been, what it really could be, to be human. O highest and most marvelous felicity of man!

Issues & Items

Many Are Called. With the academic year of 1962-1963 well under way and Thanksgiving in the offing, the size of our educational enterprise may well merit a moment's meditation. There are 39 million youngsters enrolled in US public schools from kindergarten through the twelfth grade—roughly one-fifth of our entire nation. Private elementary and secondary schools accommodate another six million to bring the total to a thumping 45 million or about one-quarter of all Americans. Add the college enrollment (close to another five million), take into account both the birth rate and the rapidly increasing trend toward longer periods of schooling, and it is quite possible that within another decade, almost one-third of our population will be devoting the major portion of its time to education.

Two points are noteworthy here. The first is the international contrast. In the United States, over 10 million of our school population of 45,000,000 are enrolled in high schools. In the approximately 200 countries and territories recently surveyed by UNESCO, the total enrollment in secondary schools is about 71 million. In other words, we account for nearly one-seventh of the entire high school population of the world. Further, in the relevant age range from 15 to 19, we have some 73 per cent of our youth in school, whereas the world figure represents a great deal less than half the children eligible for secondary education. Nevertheless, a worldwide boom in school attendance seems in the making. In recent years, high school enrollments have jumped not only from 35 to 87 per cent in the Netherlands and from 25 to 65 per cent in Australia, but from 11 to 42 per cent in Ceylon and from 1.5 to 5.3 per cent in Morocco. The trend is clearly upward all over the globe, and some of the largest proportional increases, of course, are being registered in the so-called underdeveloped nations.

The second observation has to do with costs. Given these demographic data, it is no surprise that the annual bill for education through the twelfth grade in the US is likely to exceed $33 *billion* by 1970. This estimated price tag applies only to current costs; capital expenditures (plus interest charges) would, of course, hike the charges considerably. This educated guess about future costs assumes a sizeable improvement in the qualifications of teachers and a concomitant boost in their salaries to make their earnings decently comparable to those of other professional people, but the bulk of the bill will be chargeable directly to the sheer numbers of children that Americans regard it as their business to educate and to educate well. And actually, it isn't a very steep price at that. On a per capita basis, the tab comes to less than $175 per year or under $700 for a family of four. There are plenty of places where property taxes come to a much higher sum, and we doubt that anybody wants to argue that education is worth less than garbage disposal and the convenience of indoor plumbing, as thoroughly desirable as such things are. As a matter of fact, is it possible that to the extent that such an improbable argument is advanced in the United States, to that extent we have declined in the hardy sense of values that our forefathers bequeathed to us? As a November thought, the issue may indeed merit a moment's meditation on Thanksgiving Day.

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And Many Move. While we are on this subject of numbers, we may as well report some other statistics that have a curious appropriateness to the month of Thanksgiving. America is ordinarily thought of as a mobile nation, its people ever on the move, restlessly gliding over good roads on wheels or through the air in the largest fleet of commercial airplanes in the world. It's apparently true. Some 22 per cent of American householders change their addresses every year; the mailing lists of publications and advertising agencies show an average annual change of about 25 per cent, and between 1950 and 1958, almost half the population altered its residence.

All this undoubtedly comes as no surprise. But when the Outdoor Recreation Resources Review Commission sampled the US population not long ago, asking how many American families take vacations (defined modestly as any trip away from home for more than three days for any purpose other than business or family crisis), the results were startling. No more than 43 per cent of our families take vacations! And a recent study by the airlines showed that at least half the population never travels more than 200 miles from home. We seem to move for business reasons or to stay put—this despite our extensive leisure, our high per capita incomes, and our remarkable transportation facilities.

We also, to be sure, are going abroad in greater numbers, both absolutely and proportionally, than ever before; and in the pursuit of business and professional aims, we log a tremendous number of miles per year, domestically and outside our national borders, too. Nevertheless, the low frequency of vacation trips and the obvious concentration of movement for most people within a highly restricted radius are puzzling. Fascinated since a childhood reading of the story of Plymouth Rock, we can't help wondering if some of the spirit of the Pilgrims, a little dour and skeptical of fun but businesslike and endowed with both vision and the courage to act on it, hasn't seeped down to us. This touch of the original leaven may darken our holidays with just the smallest cloud of guilt occasionally, but it is a source of proper pride, too, perhaps. Again, the point may be worth musing on briefly on Thanksgiving before we attack the ceremonial turkey, remembering that turkeys are lacking in most of the world and that the lack can no longer be unimportant for us.

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International School Conference. With Dr. Dwight E. Knox, headmaster of the American Community School of Beirut, as host, the fifth conference of overseas schools will be held this month in Lebanon under the sponsorship of the International Schools Foundation. Representation is expected from Japan, the Philippines, India, Pakistan, many countries of the Middle East and Europe, and several parts of Africa.

A major agenda item is the different modes of approach to the problem, affecting increasing numbers of children, of educating under one roof and within the same walls a group of youngsters who reflect widely different cultural, linguistic, and ethnic backgrounds. A specific examination is planned of the "multi-stream" curricula common in many European schools in relation to the integrated curricular patterns more typical of the American sponsored Schools throughout the world.

Meeting on 20-24 November, the conference plans to issue a volume of proceedings which will probably be available shortly after the first of the year. Requests may be placed with the International Schools Foundation, 147 East 50th Street, New York 22, N. Y.

* * *

Monthly Miscellany. Atheneum House has made available a charming little pamphlet by Eve Merriam, the poet, entitled "What Can a Poem Do?" It represents one of the most sensible and engaging introductions to the appreciation of poetic art that we know. While they last, copies may be obtained from Miss Jean Karl, editor of children's books at Atheneum, 162 East 38th Street, New York 16, N. Y. . . . Is there a shift in the character of our desegregation problems? The tempo of integration is apparently quickening, except in particular enclaves, in the South. But in the cities of the North, *de facto* segregation has increased in frequency as at least a *noted* problem. . . . In West Germany last summer, over 70 per cent of high school students held jobs, whereas among their counterparts of five years ago, only 30 per cent worked during the summer. The West German Labor Bureau seemed a little bitter in its comments: Most of the students "had nothing on their minds except expensive purchases, such as motor scooters, furniture, or even stock shares." . . . A new alphabet, called Augmented Roman, is being tried out this year in selected British schools. With neither a Q nor an X, it has an additional 19 diphthong-like letters. The primary question is whether it more effectively facilitates reading skills. . . . On the ground that boys who enlist in the military before completing high school "cause trouble, and we have no time to waste on them," the US Army has made it clear it takes a dim view of school dropouts as soldiers. . . .

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Programing in education and teacher preparation

IN THE EARLY 1930s, Sidney Pressey (*9*) described American education as "the one major activity in this country which is still in a crude handicraft stage." In the 30 years that have passed since that characterization was offered, we have witnessed incredible technological advances in virtually all aspects of American life, yet the statement remains substantially true. Pressey's confident prediction of a coming "industrial revolution" in instruction and his vision of a distinctive instrumentation in education have yet to materialize.

It is interesting to consider why, in the light of the indifference with which Pressey's work was met, more recent efforts to promote an auto-instructional technology have found such a ready audience. Although many factors may be at work here, it seems most likely that Pressey was simply ahead of his time, that the *Zeitgeist* was not right for the cause he championed. As Skinner (*11*) has observed, "Pressey's machines succumbed in part to cultural inertia; the world of education was not ready for them."

Sentiment and Science

In the twenties and thirties, education was dominated by a sentimentalism in which Pressey's work could find no place. Since his machines did not articulate with any of the main streams of educational thought, they could safely be ignored. It will be recalled that this was the era of a strong mental hygiene movement with an emphasis in education on the development of the "whole child." The situation is quite different today. There is a growing recognition that education is beset with problems; since the end of World War II the schools have been plagued by continuing crises. Soviet achievements in space exploration sharply contradicted American assumptions of national superiority. The successes of Russian scientists dramatically focused attention on some of the inadequacies of American technology, which were quickly laid at the door of education. But these were only the most recent of a long series of events, all of which indicated the seriousness of the problems the schools are facing.

In the light of these challenges, responsible educational authorities have too rarely responded with imagination or daring. Glazer (*4*) has recently pointed out that the typical response of the New York City Board of Education to any problem is to ask for more money and more personnel so that it can do more and more of what it has been doing. This tendency to persevere along well worn paths, so apparent in New York City, is probably true of American education generally.

Fortunately, in the last few years, we have begun to witness strong countervailing forces. There is a growing awareness that the problems of education will not be solved by caution but by boldness, by realism rather than by sentiment. There are clear suggestions of a new mood in education, a mood in which ritualistic obeisance to the "whole child" and the familiar slogans about "teaching children, not subject matter" seem irrelevant.

There are many manifestations of this new mood. Subject matter specialists, particularly scientists and mathematicians, are taking a hard look at the content of courses at the elementary and secondary school level. These efforts are not just new occasions for deploring the deficiencies of existing curricula. Creative effort is going into the building of up-to-date, integrated courses of study. At the same time, there are impressive experiments in the organization of classroom instruction of which team teaching is perhaps the best known example. Finally, of course, there are the efforts to exploit new advances in the technology of communication to facilitate instruction. Tape recorders, closed-circuit television, and motion pictures are becoming familiar aids to instruction. The teaching machine is the latest manifestation of this new mood in education.

Excitement in Machines

There is something in the recent work on automated self-instruction that has excited the enthusiasm of people with widely varying interests. To those who find hardware in itself fascinating, there are the intricacies of machine design. To those who are more interested in the problems of organizing and communicating a body of knowledge, there is the challenge of programing. To those who find budgetary considerations of major concern, there is the illusory promise of financial savings inherent in a greater dependence on technology. And so it goes: From the educational theorist to the practical school man, from the book publisher to the research worker, teaching machines seem to open up exciting possibilities. Teaching machines have struck a responsive chord in many different quarters, and it is therefore not surprising that enthusiasm has rapidly expanded into a "movement," uniting individuals of quite different background and interest.

Programed learning and teaching machines have been introduced with more than their share of ballyhoo. Much of the so-called literature on the subject is frankly promotional. Although the more strident exaggerations have justifiably offended skeptical educators, these "hard-sell" tactics may have served a useful purpose. Innovation in education has never been easy; educators are usually wary of introducing major changes in procedure. As Silberman (*10*) has noted, claims for the superiority of programed learning have stimulated a willingness to introduce these materials into the classroom. Considering the natural reluctance of educators to accept new techniques, the sometimes exaggerated descriptions of learning from programed materials may be excused.

In any case, we believe that teaching machines and programed instruction are here to stay. Neither hostility nor indifference will make them disappear. It will do no good to recall earlier fads in education that have run their course to oblivion. Programed instruction may have some earmarks of a fad; certainly, it has attracted more than its share of enthusiasts for whom passionate conviction has replaced critical judgment. But it rests on too solid a base for us confidently to anticipate the day when teaching machines will be relegated to some educational junk pile or mausoleum. Nor will we lessen the impact of programed instruction with claims that "It is nothing new; we've been doing it for years." A good idea is not worse for having a history. Programed materials bear a resemblance to instructional materials with which educators have long been familiar (workbooks, flash cards, and such devices as reading pacers are the most often cited examples), but it will do little good to emphasize the similarities and ignore the very real differences between programed materials and other techniques of instruction.

There are many reasons why we can confidently expect that programed material will have a strong impact on American education. The primary reason is that these materials work. There is clear evidence that when students proceed through a carefully constructed program, they learn. We have still far to go before we fully understand the most appropriate and effective use of programed materials, but there is enough dissatisfaction with instruction as it is now conducted in the typical classroom to insure that so promising a development will not remain unexploited.

Broadened Choices

In many school systems, teachers who are well qualified to teach certain subjects—especially mathematics, science, and foreign languages—are in short supply. A school administrator who wants to schedule courses in such subjects must often do so with the discomforting realization that his teachers are really not prepared to offer the necessary instruction. Under the circumstances, it may be a matter of providing an inadequate course or none at all. Programed materials, particularly when they can be combined with group teaching aids such as films, slides, and TV, offer the school administrator another choice. So long as there are shortages of teachers of certain subjects (and all indications point to the continuation of shortages), we can expect audio-visual aids and teaching machines to play an important role in education. It is interesting to note that most of our existing self-instructional programs are in areas where qualified teachers are in short supply—mathematics, science, and foreign languages.

We are living in an age unprecedented for its ability to develop new knowledge. In virtually all fields of study, more is now known than has even been known before, and the rate with which new discoveries are being made is accelerating. The problems of organizing and assimilating this knowledge can severely tax the most gifted and conscientious teacher. Insofar as the teacher has not himself mastered some area of knowledge, he can hardly be expected to communicate what has been discovered to his pupils. Inevitably a teacher must recognize his limitations and turn, with no loss in self respect, to such teaching aids as may help him function more effectively.

The problems created by teacher shortages and the expansion of knowledge are aggravated further by an increasing pupil population. Greater enrollments have understandably been accompanied by a greater emphasis on independent study, and this, too, suggests a role for auto-instructional devices. Because programed materials are meant for self-study, they are admirably suited to a school's plan of independent and individualized work. With the expansion of such study programs, particularly on the college level, where enrollments are expected to double in the next ten years, we can anticipate that programed materials will find a secure place.

It is easier, however, to predict with confidence that programed learning will have profound effects upon American education than to specify the exact nature of these effects. Much will depend upon the kinds of teaching machines that are developed, the nature and variety of programs that are prepared, and the ways in which these devices and materials are introduced into the schools. At least one source of ambiguity concerning the impact of the new emphasis on auto-instruction is attributable to the term "teaching machines." Educators are, of course, vitally concerned with practical problems in the management of learning, and it is therefore appropriate to ask whether or not teaching machines really *do* teach or, more concretely, teach well enough to justify their general use. Although this question grows naturally out of the term "teaching machines," it reflects an inaccurate conception of the machine's function. No so-called teaching machine that we know of, and none that we can envisage, is, strictly speaking, capable of teaching. There are many specific devices called teaching machines, and they vary greatly in size, internal mechanism, and operational principles. Some are fairly elaborate in appearance and function; others are little more than crude metal boxes. Notwithstanding the sometimes impressive capabilities of the best examples of these devices, the term "teaching machine," because it suggests that the machine is a replica of the human teacher, is a misnomer. The machine really does not and cannot teach. It is only a vehicle for presenting programed instructional materials to the student. These materials do the teaching, if anything does. No machine can be any better than the programed material it contains, and for this reason, educators probably should be less concerned with machines and more concerned with programing.

Hardware vs. Program

Teaching machine hardware, we feel, can safely be left to the ingenuity of the many firms that are now producing these devices. Native wit and vigorous competition should insure a steady development of machines with varied functions, capabilities, and price tags. The most recent work on computer-based instructional systems and machines that use sound motion pictures as stimulus material are an indication of some of the exciting things to come.

There is good reason to believe that many of the teaching machines now on the market offer no compelling advantages over simpler methods of confronting the student with the material to be learned. Arthur Gates, recounting the history of reading pacers (*3*), has reminded us that an elaborate apparatus may not only fail to achieve its intended objective, but may also be no more effective than a simple, inexpensive piece of cardboard. Programed materials reproduced in a modified book form duplicate most of the essential functions of machine presentation. At the same time, they are cheaper to produce and easier to use. About the only thing that present-day machines can do that a book is incapable of doing is to prevent the student from "cheating." Opinions vary on the importance of this feature; the limited research available on this issue—as on virtually all of the crucial issues in programed learning—is inconclusive. Manipulation of the machine may have reinforcing properties which are not present in the turning of pages, but this too is questionable. Many investigators feel that, at the present stage of their development, machines are necessary only with very young children. With older, more cooperative, and more disciplined learners, the advantages of machine presentation may be too small to justify their cost. It is probably significant that Holland and Skinner, both of whom have staunchly defended the desirability, even the necessity, of machine presentation, have allowed their program on *The Analysis of Behavior* to be published in book form (*6*).

The initiative in programed instruction was never in the hands of professional educators, and it certainly is not in their hands now. We regard this as an unfortunate situation, for insofar as programed instruction has a role to play in the contemporary school, it is the educator who should be central in defining this role. Commercial organizations are now in vigorous competition, producing and marketing teaching machines and teaching programs. As school people come under increasing pressure from parents and school boards to adopt some of the available programed materials, the blandishments of the teaching machine salesmen will be harder and harder to resist.

If we can, with some safety, delegate machine design to those who find this aspect of auto-instruction fascinating or profitable, we cannot, as conscientious educators, do so for the *programs* that are being produced. The production of programs has lagged far behind machine development. To a great extent, the commercialization of machines is unjustified by the number or variety of high-quality programs. There is some danger that in a hurried attempt to prepare and market programs, we may fail to realize the promise of this approach to instruction. Some subject matter specialists have complained that the programs they have examined reflect outmoded curricular concepts. Other programs appear to have been released without adequate pretesting, thus vitiating one of the potentially distinctive advantages of programed instruction.

Although the programs that are now available to an educator are relatively few in number and are not of uniformly high quality, there is every reason to believe that this situation will rapidly change. Programing is going forward on a fantastically broad front, and we may soon expect to see well constructed programs in a wide variety of subject areas. As that day approaches, it seems evident that the schools will find more and more occasions for using these materials.

Individual Differences

Emphasis on programed instruction may provide a new occasion for reconsidering the goals of education. In many courses, the objectives of instruction are vaguely formulated and ephemeral; we can never be sure that we have found the "best" way to reach these objectives because we don't know exactly what they are. In programing, it is essential that the goals of the instructional process, defined in terms of the behavioral competence the student is expected to acquire, be specified in advance. The success of the programer's effort is dependent upon the skill with which he can formulate the behavioral steps the student must take to reach these objectives. Insofar as programed materials, based on explicitly formulated, behaviorally specified objectives, are compared with other teaching methods and materials, we may expect renewed attention to the objectives of all instruction.

Programed materials will provide new opportunities to meet individual student needs and characteristics. One of the more obvious facts of classroom life is that pupils differ from one another. Teachers are exhorted to be sensitive to these individual differences and to make appropriate instructional adaptations. It is, of course, easier to give than to take this advice, and one of the persistent difficulties many teachers face is their inability to deal effectively with the individual differences that are present among their pupils. Programed materials will not solve all of the problems of meeting individual pupil needs, but they do offer some potentially valuable help. For students who have not mastered material that is essential as a prerequisite to a further unit of instruction, programed materials may provide the needed basic understanding. For students who have moved ahead more rapidly than their peers, programed materials may provide opportunities to explore interesting extensions of the more fundamental matter they have already mastered. In situations where programed materials provide the basic instruction, the teacher may be freed to offer remediation and enrichment as necessary. Finally, a teacher, by observing the way a child responds to the separate frames of a program, may derive helpful insights into the child's approach to learning and may clarify some special learning difficulty. Thus, programed materials may be used by a teacher as diagnostic devices. On the basis of what the teacher observes as the child works his way through a program, it may be possible to develop more appropriately individualized experiences for the child.

Although the use of programed materials need not be limited to any specific group of students, these materials seem to offer special assistance to those who work with deviants. The US Office of Education is currently supporting a number of investigations in which programed materials have been adapted to the special needs of mentally retarded children and children with physical handicaps. Because the student using programed materials proceeds at his own pace, the slow learner may function more efficiently when the subject matter to be learned is programed for individual study than when it is presented in a group situation. For students who have major learning difficulties and who, therefore, regularly experience failure in school work, the salient features of programed material—concepts in logical sequence, small and easily taken steps, frequent student responses, immediate feedback, etc.—may provide significant experiences in successful learning and may contribute to a renewed self-confidence and interest in academic study. Holland has reported some success in using programs with hard-core delinquents at the Judge Baker school in Boston. He has also described the use of tape recorded programs on discrimination training for children who have difficulty articulating various speech sounds (5). The potential uses of programed materials for children who are home-bound or confined to hospitals are obvious. Programs may also be useful with children who live in remote rural areas as well as those who have left school at an early age.

Programer's Responsibility

Programed materials should lead to better teaching materials of all kinds. In developing a program, we assume that if students fail to learn, it is the program that is at fault, not the students. We check student learning empirically and revise the program to maximize learning. This procedure, we feel, puts the instructional emphasis where it should be —on the teacher's responsibility to make certain that what he communicates is learned, rather than on the learner's responsibility to make sense out of any communication from the teacher, no matter how unclear it may be. If this emphasis on the teacher's responsibility to insure learning is adopted as a general maxim in education, we can soon expect to see better textbooks, workbooks, and audiovisual displays.

Auto-instructional technology has implications for school design. Teaching machines and programed materials generally are better suited to flexible classroom arrangements than the traditional "egg-crate" organization of self-contained classrooms. Changes in architecture and space utilization are dictated not only by the adoption of programed materials for learners engaged in individual study, but by large groups under team-teaching arrangements. If a school organizes its major academic offerings around programed textbooks, we can foresee a considerable expansion of space and personnel devoted to library activities. There is even a great deal of interest in the possibilities of using computers to control instructional processes. A large random-access computer, capable of storing and "delivering" different programs to a large number of students working simultaneously but individually, appears to be operationally and financially feasible. Such a computer can respond to the student's efforts with infinite patience and amazing skill; it can take the student's ability and previous performance into account, branching the programed material as needed, and it can, at some designated point, print and store a record of the student's performance. A number of organizations are developing such computer-based instructional systems, and it is easy to see that, insofar as they are successful in their efforts, the school of the future is going to look very different from the school as we now know it.

As a final point, it seems important to distinguish between a technology of instruction and a science of education. In considering programed materials, we have concentrated upon their potential contribution to classroom instruction, but programed materials will have a broad influence also on educational research. They may ultimately prove to be one of our most potent tools in developing a genuine science of education. The constant necessity in educational research to replicate and design investigations so that the effects of the individual teacher are balanced throughout the treatments has been a factor hampering our efforts to develop stable generalizations concerning the influence of variables in the organization and presentation of the material to be learned. Subject matter programs offer us the possibility of studying educational phenomena with the influence of the individual teacher removed. By using programed materials, we can more easily investigate the effects on learning of systematic variation in such variables as frequency of review, amount of drill and practice, overt as opposed to covert responses, etc. This point has been emphasized by Stolurow (*12*), who, after summarizing the literature on programed learning, pointed out that,

> Teaching machines may eventually provide the basic data for a new theory of teaching, the missing counterpart of the theory of learning. It is anticipated that the machine, as a controlling device, will serve to eliminate the effects of extraneous variables and permit the identification of basic variables and their inter-relation-

ships. In effect, the teaching machine is an educational laboratory. It can do for education what physics, chemistry, and psychology laboratories, for example, have done for their areas. The variables of interest can be manipulated in a rigorous way, conditions can be standardized, etc. The machine can provide information about methods of teaching free of uncontrolled variations due to differences among teachers. Once the basic variables in the instructional process are identified, they can be studied in relation to social and personality factors.

Role of the Teacher

Among other effects, auto-instructional technology, as it is employed in the schools, is going to force a reappraisal of the role of the teacher. Pressey, in originally advocating the adoption of machines, never believed that machines would replace teachers. Rather, by taking over some routine instructional functions, the machine would give the teacher more time for individualized and creative teaching. This emphasis on the teaching machine as an aid and not a threat to the teacher—as a releaser of time for creative instruction—appears over and over again in the writings of those who advocate the adoption of programed instructional materials. We believe this emphasis is a sincere attempt to evaluate the potential impact of these devices, not an effort to seduce teachers into an unwitting acceptance of the instruments of their own destruction. And yet many teachers feel threatened by the existence of teaching machines.

Advocates of teaching machines tell us that the teacher who recognizes the limited yet distinctive competence of the machine should welcome the opportunity to concentrate more fully on those instructional functions which only a human teacher can fulfill. These reassurances that, even in a heavily automated school, the teacher will not be obsolete are not completely comforting. The assertion that programed instruction will take over only certain limited instructional functions, leaving other functions for the human teacher, assumes that teachers can easily separate instructional functions from such other objectives as the development of attitudes or the stimulation of creative and original thinking. Probably most good teachers see these functions as inextricably related to one another. A skillful teacher does not spend an hour on arithmetic, followed by an hour on attitude development. Instead, the affective and attitudinal facets of education are part of all instruction. The child's feelings toward himself, his peers, and his school activities are developed in a context, and this context includes subject matter instruction. Educational functions are not, in practice, fragmented, and it is therefore difficult for teachers to see just how they will go about being creative in a classroom where subject matter is taught by programed materials.

There is no simple solution to this dilemma. If some of the programing enthusiasts have been insensitive to the organic wholeness of teaching, it is probably also true that some teachers are not sufficiently receptive to the possibility of devices serving as aids to instruction. Undoubtedly, the anxieties of some teachers are exaggerated. There has been a great deal of vague talk about machines dehumanizing teaching. The spectre of teachers and students converted to robots under the direction of a "super-machine" has been used to maintain opposition to even a limited use of instructional devices. There seems little likelihood, however, that the hostility with which many teachers face teaching machines will effectively block their further introduction in the schools. With experience, teachers and machines will learn to live together, hopefully in a mutually beneficial, symbiotic relationship.

The Education of Teachers

The potentially far-reaching effects of programed learning on American education clearly suggest the need for some modifications in teacher education. If teachers will soon find themselves working in schools in which instructional devices carry an important part of the educative burden, teacher education surely has a responsibility to prepare teachers to work effectively with these technological aids.

At least one of the tasks teacher education should assume is that of helping the teacher to develop a receptive attitude to instructional innovations of all kinds. There are many forces at work in education today to quicken the pace with which innovation is introduced. We can probably expect changes in the schools of the future that go far beyond the teaching machines that are now available. But part of the difficulty in furthering any particular educational innovation is the attitude of the teachers, who will, after all is said and done, crucially affect the success or failure of that innovation. In evaluating programed learning, Silberman (*10*) reports that "field tests have indicated that teacher attitude is a major variable, and some classes with programed materials alone, without the help of a teacher, proved superior to classes using the same material with the help of a teacher with a negative attitude." We have here a particularly clear example of a self-fulfilling prophecy. The teacher who is hostile to programed materials, who is convinced they cannot work, can vindicate her judgment by behaving in subtle ways to cast doubt on the materials and thus influence pupils' learning.

To advocate a more receptive attitude toward innovation is not to suggest that teachers should uncritically accept any and all schemes proposed for the improvement of education. For every worthwhile innovation we can probably expect to find several with no merit. The problem for education is to separate what is helpful from what is not. To do this we need to be both tolerant and critical. Above all we have to be prepared to suspend judgment, to tolerate ambiguity, until there is enough evidence to warrant a judgment.

In addition to encouraging in prospective teachers a greater interest in and tolerance for educational innovation, teacher education can use programed instruction in a number of other ways. The psychological rationale and the empirical principles of programing should be taught as part of the teacher-education program. A careful consideration of the methodology of programed instruction can help to clarify not only how programing works, but also how other approaches to instruction function.

It would be particularly desirable if prospective teachers were to experience programed instruction as learners. There are now enough good programs so that students in teacher education can pursue at least a small part of their college study using these materials. Certainly all prospective teachers could benefit from working through *A Programed Primer on Programing*, which Markle (7) and her collaborators have recently published. The authors are now preparing a program on educational measurement, designed for teachers. When this and other, similar programs are available, it will be possible to achieve the dual purpose of teaching material of importance to the new teacher and doing so through the vehicle of programed instruction.

Technology of the Job

Perhaps the most important way in which teacher education can make use of programed learning is to include systematic training in program construction for all teachers. There are few experiences which can bring a teacher face to face with the myriad problems of instruction more rapidly or more effectively than the task of programing. Evaluating the place of tools and technology in education, Martin Mayer (*8*) has said,

> Whatever else it is, the teaching machine is an indispensable asset to teacher training, in the colleges or on the job. Nothing handicaps the beginning teacher so badly as the notion that words mean what you want them to mean, and that when you say something to a child he understands the thought enshrined in your words. The teacher who has programed a day's work, who has written down on paper and tried out on children her apparently logical and easy-to-follow presentation of the new lesson, learns something about the process of education which can be learned no other way. She will never again believe that because she understands something she can automatically pass on her understanding, never again feel that her own way of presenting material is inevitably "natural," never again brush aside a child's question as irrelevant or stupid.

Teachers need practice in programing to find out what their instruction actually conveys to the pupil. But the experience of preparing programed materials has additional significance for the teacher in training. On the basis of his work at Earlham College, where a variety of programing projects is under way, John Barlow (*1*) has concluded as follows:

> I have some real reservations as to the over-all profit to the student and to education in instances in which a teacher who has never constructed a program and who does not understand the process involved in them uses programs for his students that someone else has prepared for him. I do not necessarily mean that the resulting situation will make things worse off than they are now, but it certainly will not result in the exploitation of the truly great possibilities opened as a result of the development of programing techniques.

Clearly, if the teacher is to recognize and capitalize on the great advantages offered by programing, experience in the preparation of programed materials is a necessary prerequisite.

As a final word, it may be well to reiterate Bruner's observation on aids to teaching (*2*): "The devices themselves cannot dictate their purpose. Unbridled enthusiasm for audio-visual aids or for teaching machines as panaceas overlooks the paramount importance of what one is trying to accomplish." Only when we have the objectives of a curriculum formulated explicitly—only when we know, as teachers, what we are trying to teach—are we in a position to determine appropriate means to achieve these objectives. Undoubtedly, we shall find that human teachers and teaching machines can be more effective when they function cooperatively than when they are in a basically antagonistic relation to one another. To illuminate the exact nature of the teacher-machine cooperative relationship, we shall need a great deal of fundamental research and field study, but we shall also have to keep clearly in mind what we are trying to do when we educate.

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The teaching machine: Psychology's new hobbyhorse

SINCE THE APPEARANCE in 1958 of Skinner's paper on teaching machines in *Science* (*12*), the teaching-machine movement has been growing in bandwagon fashion. Articles expounding the basic principles of the teaching machine appear with ever-increasing frequency in the general press and mass-circulation magazines, while reports of studies and general discussions on the subject occupy a growing portion of the programs of current professional meetings of psychologists, as well as of the contents of psychological and educational journals.[1] Indeed, it is hardly an exaggeration to regard the current invasion by psychologists of the field of education as constituting something of a revolution within the psychological profession. Curiously enough, however, it has remained thus far a remarkably quiet and uncontested one. With a few isolated exceptions, such as Stolurow's (*14*) recent article, there has been little inclination to undertake a critical appraisal of this movement, the soundness and desirability of teaching machines being generally taken pretty much for granted.

The present writer's acquaintance with this area admittedly derives mainly from the published literature on the subject. Yet, for a psychologist interested in the development of the thought processes in children and in the psychological foundations of education generally, certain aspects of the teaching-machine approach raise some fairly basic issues which deserve to be more widely discussed than they have been. In order to promote such discussion, it is the aim of this paper to present three broad criticisms of the current work on teaching machines. It will be shown, first, that the theoretical foundation on which this work allegedly rests is a fairly tenuous and unconvincing one. Second, the adequacy of present-day approaches to programing will be questioned in the light of our knowledge—and lack thereof—of relevant aspects of the learning process. Third, and perhaps most important, it will be argued that the teaching-machine movement is built on and fosters a very narrowly conceived, debatable view of the educational process and of the philosophy of education generally.

Two brief prefatory comments may

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[1] A collection of the most important papers in this area published through 1960, together with an extended set of abstracts of other relevant literature has been compiled and edited by Lumsdaine and Glaser (*9*). See also the review by Morrill (*11*).

be in order. Since there appears to be some tendency for advocates of the teaching machine to dismiss critics of their work in advance as misguided souls, unable for emotional reasons to accept the marvels of a world of automation, it is important to note at the outset that the criticisms to be offered here do not in the main concern the machine itself so much as the thinking that goes into its programing. In fact, most of the points to be made apply with equal force to the programed texts which dispense with the machine altogether. On the other hand, it must be recognized that, in the face of the considerable variety of approaches to programing and to the design of teaching machines, unqualified generalizations on this subject are hardly warranted. For this reason, it should be borne in mind that the remarks in this paper are directed in the first instance at the views and methods espoused by Skinner and his disciples (cf. *12*, *13*), these appearing to be the dominant influence in the field at the present time.

Theoretical Backgrounds

Skinner and his associates have repeatedly claimed that the rationale of the teaching machine is backed up by well established principles of learning which have emerged from extensive research in the psychological laboratory. Except for the attention given to immediate reinforcement of responses, however, the particular relevance of the laboratory work to the learning of a program by teaching machine has been left largely to the imagination. This is hardly too surprising, given the considerable gap to be bridged between the acquisition of a bar-pressing response by a pigeon in the Skinner box and the writing of a verbal response by a student in the frame of a teaching machine program.

Two points are to be noted in particular. To begin with, experimentation in the Skinner box (as in verbal-conditioning experiments on humans modeled after it) typically involves the acquisition and maintenance of a single, or possibly two or three, discrete responses in an essentially unchanging stimulus situation. By contrast, learning via the teaching machine confronts the learner with a constantly changing succession of stimulus configurations (the questions) and a corresponding succession of different responses, each ideally to be learned, by Skinner's own insistence, in a single trial.

If we ask ourselves what makes such near-errorless learning possible, we come face to face with the second major difference between the teaching machine and typical Skinner-box learning—the organization of the items to be presented in a determinate sequence through a gradual progression in small steps. To be sure, Skinner has tried to relate this principle to the acquisition of relatively complex motor skills in the laboratory, which also appears to involve a gradual "shaping" of the response through a series of small steps. The case of the pigeons taught to play ping-pong is a favorite example, though it is difficult to find any published accounts of the details of the learning of this and similar tricks. This analogy begs, however, the essential question as to what constitutes a series of small steps in a program. Successive frames in a program are not related to each other by virtue of similarity of location or appearance; rather, they are arranged in a supposedly meaningful sequence, governed by the internal structure of the material to be learned and the semantic and syntactic characteristics of the verbal stimuli of which they are composed.

Far from representing the occasion for the routine application of well known psychological principles, therefore, it would seem that the learning of a program, with or without a teaching machine, raises a host of important questions for the psychology of learning—questions which at this stage of our knowledge remain largely unanswered.

Programing

It is interesting to note the fascination which subject matter characterized by a high degree of internal structure, such as mathematics, logic, and the physical sciences, have exerted on those active in the field of programing. These are, of course, precisely the subjects which lend themselves most readily to the construction of programs consisting of a rational sequence of small steps. Once this ladder has been built for the learner, it is assumed that he will inexorably move upward by dint of successive reinforcements. Thus, the need for any further attention to the learning process involved in the mastery of the material by the student is apparently obviated.

It may be noted in passing that this approach implicitly takes for granted the intervention of certain verbal and mediational processes in the learner, whose role in the learning process is hardly recognized, let alone understood. One may well ask by what magic the logical or semantic relations between successive items in a sequence built up by the programer are in fact responded to by the learner. That he may do so (provided he has reached the appropriate level of verbal and intellectual development, and the programer has done his work skillfully and diligently enough) is an undeniable empirical fact, but until some attempt is made to investigate just *what* the learner does in proceeding along such a sequence, this will remain a purely pragmatic enterprise, built essentially on guesswork.

The real problem here appears to be the reluctance of the programers to come to grips with the question of *what is learned*, in other words, the question of transfer, which is, of course, intimately tied up with the nature of the learning process itself. Skinner and his associates, in their commendable emphasis that learning be specified in objective terms, have perhaps succeeded in throwing out the baby with the bath by their exclusive concern with the elicitation of particular overt responses by whatever means they find at their disposal. As in love and war, all's fair in programing, it seems, provided it leads to the correct response. Yet one may question whether the learner invariably learns the same thing, whether his response follows logically from a previous one, involves a rearrangement of the semantic components of a previous item, or is fairly coaxed from him by such tricks of the trade as prompting and vanishing.

How, then, is the problem of reasoning and understanding handled in this kind of an approach? The remarks of Glaser are illuminating in this context:

> ... behaviors defined as understanding, concept formation and utilization, and reasoning seem to be brought about by continuous variations of the stimulus context in which the student responds. These variations are set up so that the student gradually receives new information, learns to make progressively finer discriminations and appropriate generalizations, and also learns to apply his responses to a wide variety of situations. This process helps to enrich the student's breadth of learning, and is an operational way of defining the development of understanding (4, p. 52).

This statement, like similar discussions of this problem by Skinner and his associates, gives no clue as to the rules by which the relevant generalizations and concepts are to be incorporated into the program—rules which, of course, presuppose some theory of the process of concept formation and reasoning. In their absence, the programer is reduced essentially to a procedure of random sampling of stimulus contexts, supplemented at best by his own intuition as to what the actual dimensions of this process are.

Levels of Comprehension

The importance of this issue is not to be lightly dismissed, since it is basic to the more general question of the level of comprehension at which the teaching of a particular topic should be aimed. As Bruner (*2*) has convincingly shown, it is possible to teach even fairly difficult concepts, *e.g.*, those of set theory, to grade school children, but only at a nonformal, intuitive level, commensurate with their general level of cognitive maturity. The implications of such considerations for curriculum construction are obvious; indeed, they have led Bruner to espouse a spiral conception of the organization of the curriculum, in which the same concepts are taken up at several different points in the curriculum, each time at a higher level of abstraction and formalization.

It would seem, then, that sound programing will require greater attention to the learning process and to its interaction with the level of maturity reached by the learner. This, it should be emphasized, is in no sense inconsistent with a behavior-theoretical approach to the analysis of learning in children, as the views and research of the Kendlers (e.g., 7, *8*) make clear. At the same time, it appears unlikely that any single general theory of learning will be adequate to the task of specifying the essential aspects of the learning process as it applies to particular subject matters learned in the classroom. Closer concern with some of the varied issues relating to pedagogical practice, as they emerge from virtually every page of Meyer's (*10*) recent book on *The Schools*, should help bring home this point, for here the psychologist will find discussed such questions as these: Is the phoneme or the whole word a more meaningful unit on which to base instruction in reading in the first grade? What are the pros and cons of concretizing the materials used in the study of mathematics? What are the possible advantages of learning a foreign language by the method advocated by Jespersen, *i.e.*, without recourse to translation or formulation of rules of grammar and syntax? It need hardly be pointed out that all such questions are of direct relevance to important problems in the psychology of human learning, though psychologists have in the past perhaps contributed less than their share to their resolution.

In spite of the rather severe criticisms leveled here at current work on programing, it is nevertheless apparent that the concept of programing itself, *i.e.*, of the presentation of materials to be learned in an orderly sequence conducive to learning, represents a potentially significant contribution to pedagogical practice. The question may nevertheless be raised whether the most effective use of this technique is in fact in the classroom itself or whether, as has been suggested by Meyer (*10*) and others, it is not perhaps employed most advantageously in the training of the *teacher*, to increase his appreciation of and practice in the sound, orderly, and clear presentation of material, as well as develop in him a more thorough understanding of the subject matter.

Educational Objectives

From the writings of workers in the teaching-machine field, it would appear that their activities represent essentially an engineering venture, altogether neutral with respect to broader questions of the philosophy of education. Whatever the educator wishes to see taught, they assert, can be made suitable for instruction via teaching machine, provided only the particular behaviors which he wishes the student to learn are specified precisely enough. But in application such a prescription tends to impose in itself a very definite conception of the objectives of the educational process, *i.e.*, the acquisition of *particular correct responses.*

Let us look at the consequences of such a view in a specific instance. If one examines the section devoted to scientific method in Holland and Skinner's (*5*) program in introductory psychology, it soon becomes clear that what the authors seem to be aiming at is not so much an understanding of the problems and issues arising in the application of the scientific method in psychology, but rather the familiarization of the student with a set of verbal terms such as "dependent variable," "independent variable," "explanation," "control," etc., and the increasing of his skill in using such terms correctly. What the approach of the authors has of necessity failed to convey, here as elsewhere in the program, is any sense of the significance of the material covered or of the problems which it raises. Indeed, from a study of this program, it would never dawn on the student that there might be any questions, any as yet unresolved problems, anywhere in the field of psychology! It is apparently all reducible to a limited set of perfectly unequivocal facts, terms, and laws.

Here we come to one of the most essential objections to be leveled at the programed-learning approach to teaching: its disregard of the role of questions in the learning process. This point may be highlighted by contrasting the teaching-machine method, with its exclusive concern for the learning of correct responses, with an alternative one, based on the learner's *discovery of a principle* as a result of asking the proper kind of questions. While there is nothing particularly new in such an approach, it has recently been subjected to more systematic research, notably in the work of Suchman (*15*).[2] This author has attempted to develop an understanding on the part of school children of certain principles of physics by means of an adaptation of the game of "20 questions," in which the child asks the teacher a series of questions, each to be answerable in "yes" or "no" terms. The point of this procedure is to get the child to develop a strategy of questioning that will lead him to understand the basis for some phenomenon that has just been demonstrated to him (*e.g.*, the bending of a metal rod whose ends are attached to a wooden base when both are held over a flame). Clearly, in this kind of task there are no right or wrong answers to be learned, and thus no specific responses can be reinforced. To be sure, this makes for a somewhat strange situation, not only for the reinforcement theorist, but for the child himself, as Suchman notes:

> ...the rewards in the classroom had typically come for giving the *right answer*. The child comes to assume that if you always do what you are supposed to do, listen when you are supposed to listen, and read the pages in the book you are supposed to read, you can usually be sure of having the right answer. But now we were asking these children to think, and to generate questions in pursuit of discovery. This required them to plan, to

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[2] A more general discussion of the role of discovery in learning may be found in a recent book by Hunt (*6*, pp. 267-288). See also Gagné and Brown's (*3*) interesting experimental study bearing on the same question.

make decisions, and to think creatively (*15*, p. 156).

But Principles?

In spite of all this, learning takes place in this kind of task. At least some children show definite improvement in the appropriateness of their questions and the effectiveness of their strategies of questioning. The learning is perhaps not as efficient as direct teaching of the principles involved might be by teaching-machine programing, though it can apparently be aided substantially by some additional "reinforcement" from without in the form of class discussion in which the strategy of questioning is analyzed. Nevertheless, it is certainly possible that the retention and, above all, the potential transfer value of this kind of learning may well exceed that resulting from successive reinforcement of chains of discrete responses through a machine program. After all, much of our education in scientific thinking at the college and graduate level is predicated on a very similar approach.

But the asking of questions represents more than just an instrument for learning; it may well be regarded as having a definite educational value in and of itself. Questions may be a manifestation of the child's active attempts at dealing with the materials and the problems with which he is working, and they may provide him with potentially valuable information. Children are, of course, notoriously inquisitive by nature when they enter school, but the apathy and lack of intellectual curiosity so commonly found in high school and college suggest that our schools might do considerably more to encourage this trait. Yet, if there is one thing for which teaching machines as presently designed leave no room, it is the asking of questions on the part of the child. If, to use a favorite analogy of writers on this subject, the teaching machine represents in fact a "private tutor," it is an unbending taskmaster indeed, who can only reply to any question put to it by the child, "*I*'ll ask the questions around here, if you don't mind! On to the next frame!"

Let us consider a second aspect of learning which is most conspicuously neglected by teaching-machine instruction, that of verbal expression. One would hope that the schools would further the child's skills in clear and effective communication of his thoughts, both orally and in writing. Any college instructor who has ever exposed himself to the reading of term papers or answers to essay exams can attest to the magnitude of this problem, which is only aggravated by the at times exclusive reliance on objective tests as the medium for obtaining feedback from the student. While educators at both the school and college levels are increasingly recognizing improved expression as a major need and are, accordingly, emphasizing the importance of frequent essays, compositions, and oral reports, a strategy of teaching which rarely allows the student to emit a sequence of even two words seems hardly calculated to help the teacher in meeting this need. Seen in this context, the heated controversy raging at present over teaching machines between the proponents of Skinner's approach, in which the learner "composes" his answer, and the advocates of multiple-choice responses fades into insignificance. The emission of individual words or simple phrases is surely a long way from the composition of even a single sentence, let alone an organized report or essay.

There are, of course, many other educational objectives that could be discussed in this context. But while one may wish for more attention to these questions on the part of psychologists concerned about education, it is patently impossible to deal with them here. Suffice it, therefore, merely to call attention to one further issue which is at the core of this problem: that of the kind of motivation for learning that we wish to foster. In the case of the teaching machine, whether the learner's ultimate need is for the approval of the teacher, the admiration of his classmates, the satisfaction of his own need for achievement, or merely to get done with the job, the immediate motive on which the operation of programed learning must be predicated is the learner's desire to master as expeditiously as possible the correct answers required by the program. In this respect, it is perhaps no worse than the conditions of motivation prevalent in many classrooms in schools and colleges. It may nevertheless be questioned whether the encouragement of this kind of motivation is desirable. We need look no further than to the sorry spectacles of the TV quiz-shows of recent memory to realize the deleterious effects which an exaggerated emphasis on the acquisition and display of information for its own sake can produce.

Glamor and Solidity

It would thus seem appropriate to ask of an auspicious educational innovation that it give greater recognition to needs of a more intrinsic sort, such as those underlying children's manifold exhibitions of curiosity, creativity, and imagination. In this connection it is encouraging to note the increasing interest on the part of psychologists in the study of this kind of motivation, directed at the arousal rather than the satiation of the individual (*1*). The educational potential of this approach appears scarcely to have been tapped as yet, but the basic groundwork has been firmly prepared.

It is probably a reflection of our culture and its values that the teaching-machine movement, with its pragmatic approach and breezy optimism in regard to our educational problems and its preoccupation with gadgetry, should have found such a ready appeal in many quarters. Yet it would be regrettable if the publicity and fanfare accompanying it and the aura of novelty and modernity surrounding it diverted attention from other less glamorous but, in the long run, probably more significant developments in psychology that are of more direct relevance to education. For as psychology is shifting away from its former preoccupation with rote learning towards an increasing interest in the acquisition of concepts, of meanings, and of problem-solving behavior in human beings, there are strong indications that psychologists are at long last discovering the significance for psychology of a variety of problems arising in the education of the school-age child. It is no longer rare to find psychologists cooperating with educators and subject-matter specialists in studying the psychological processes by which children learn to read, to solve mathematical problems, or to understand scientific concepts. In a similar vein one may point to the participation of psychologists in conferences on educational problems like the Woods Hole Conference on methods and curricula in science (*2*).

It does not seem amiss to suggest that it is precisely this kind of direct involvement by psychologists in problems of relevance to the education of the school child that will make possible the eventual creation of an adequate foundation for the development of self-instructional techniques. To that extent, and in spite of the over-all critical evaluation of teaching machines and programing presented here, one may yet agree that these devices will eventually merit a place in the classroom. But the questions of what this place should be and how these instruments can be most effectively used and integrated with other forms of instruction still need much closer scrutiny. Thus, at the present stage of development in the arts of teaching by machine and program, educators may do well to look this particular mechanical gift horse in the mouth, lest it turn out to be of the Trojan variety.

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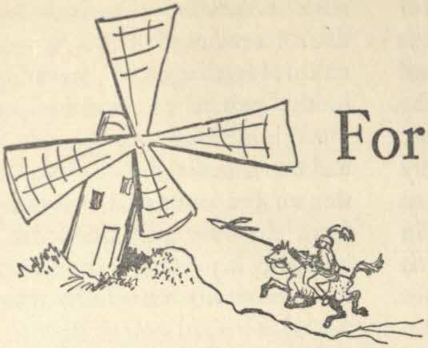

For the Record

Faith, freedom, and paradox in American education

DRIVING TOWARD a superior military position, which demands in the modern world a vigorous and careful cultivation of scientific and technological resources, the Soviet Union in 1958 reformed its educational system to insure an adequate supply of trained and inventive engineers and scientists. One feature of the reform was a *reduction* in educational opportunity for large numbers of children. Educational policy became more selective and less concerned with goals appropriate to all Russian youth. After the launching of Sputnik I, when anxiety in the United States about world leadership approached frantic proportions, Americans also looked to education for some of the major instruments of scientific advance and therefore of international power; but the nature of the US response was very different. It consisted primarily in a general and widespread *expansion* of educational opportunity. Without requiring the election of careers in aeronautical engineering or astrophysics, resources were mobilized to encourage young people to extend their schooling and to make it possible for unprecedented numbers of them to enjoy broadened instruction in the public schools and to attend college in unprecedented numbers.

The contrast strikingly underscores the curious faith in education that seems to be an inherent part of the American character. Rooted in the American bone, there is an apparent belief that virtually any crisis can be met and overcome if there is a sufficient number of educated people in the population. They need not be trained in any particular fashion; indeed, the unspoken creed seems to demand that they be schooled in a variety of ways, that they not be cut from the same educational cloth. Even though debates about what is "good" and "bad" in education are continuous, often generating at least as much heat as light, there is little disagreement about the desirability of as much schooling as possible for all youngsters or, by an inarticulate but clear implication, about the desirability of diversity in the American educational pattern. Universal education, capacious enough in its scope to accommodate all the millions to whom it applies, is a secular route to contemporary salvation.

At the same time, public support for education, like that for religion, is hardly free handed. A large number of observations documents this point. The almost always uneasy destiny of school bonds is one illustration. The relatively low salaries of teachers and, perhaps even more important, their low prestige in the community are another. A third is the lack of power and autonomy accorded to major posts of educational leadership. The job of US Commissioner of Education, as Dr. Sterling M. McMurrin pointed out in his recent resignation, ranks so low in the governmental hierarchy and is so cabined by Congressional restrictions and the security-oriented character of bureaucracy that even a strong incumbent can play only a weak role. State superintendents of public instruction generally find themselves in similar situations, having to resort through necessity more to exhortation and to pleading than to the firm and responsible exercise of leadership. Given such barriers around the positions themselves, one would hardly expect talented and vigorous men to aspire to them, and despite the happy exceptions, few people of outstanding capabilities and vision remain in them long if they occupy them at all. The result is a kind of permanent crisis in the leadership of public education that in many ways mirrors the less than optimal state of affairs defined by the teacher shortage, the high turnover in public school personnel, the tendency for the brighter and more gifted teachers to migrate into administration, college professorships, or out of education altogether, etc. Despite the role of educators as agents of secular salvation, they rarely enjoy the rewards of money, authority, or creative opportunity that our culture prizes.

If this paradox is a dramatic one, there is another that cuts even deeper. In one sense, education is intrinsically conservative. Concerned with transmitting the cultural heritage and preserving the ideas of the past, the school has as its fundamental business, along with the family and other social institutions, the socialization of the young. Its charge is to transform the raw protoplasm of childhood into the loyal and contributive citizens of the state. One of the glories of the American tradition is that loyalty and patriotism are so conceived that criticism is an inherent element of them. Both our Bill of Rights and our doctrine of checks and balances put a high value on the process of working through articulate opposition to social consensus and thus on the use of critical intelligence in matters of public policy as the hallmark of the responsible member of society. But the fact remains that education, underwritten by the state, is the servant of the culture, inevitably dedicated to its preservation and maintenance.

On the other hand, however, education is concerned with promoting skill in the use of knowledge, not merely in its cultivation for its own sake. What is taught must have applicability to business, government, the professions, and other enterprises and institutions. Consequently, the school is an agency of change, a vehicle for the altering of men's behavior in more or less orderly ways and in keeping with dreams of greater material and intellectual well-being. As is the case in religion, the notion of salvation may entail a conception of living differently, of breaking in some degree with one's past. To put the same point somewhat differently: The idea of progress, animating American education as it has animated American social life generally, is a profoundly radical one, yet it has been and is one of the shapers of school practice side by side with the conservative purposes that education must also fulfill as a part of our culture. It is small wonder that there are tensions and contradictions within the theory and practice of education in the United States.

The tensions of this paradox shade into still another. To the extent that education is committed to change conceived in terms of growth and progress, it also is confronted with the brute fact that there is no basis in knowledge for plotting a sure course to a human utopia. Men may know that tomorrow will be different, but they have no way of predicting with any accuracy what tomorrow's differences will be. In an age of appallingly rapid flux, this state of affairs is a highly disturbing one. Economic inflation creates uneasiness among all those on fixed incomes. Technological developments create insecurity among many categories of workers and raise the spectre of unemployment in a time of plenty. The explosion of population in an increasingly urban world means slums and housing problems, new and poignant issues with respect to the care of the ill and aged, and novel troubles in the form of delinquency and crime. Science and its technological applications are developing so rapidly that because few people can understand either, the technical information upon which social decisions must be based is available to smaller and smaller numbers of men. And these, of course, are only random illustrations of the concerns of our time.

For education, committed to positive change but unable to outline a certain program for achieving it, the contemporary sources of anxiety put our schools and colleges in a highly vulnerable position. To those who pursue change out of either enthusiastic convictions or a desperation born of despair, the educational enterprise can offer little in the way of a sure and authoritative blueprint. With those who oppose change and throw their entire weight behind only the conservative obligations of the school, it can make little common cause at all. In any case, all it can present is a faith, a kind of mirror-image of the faith that American society vests in education itself, and a procedure of experimentation that is at once bold and cautious, tentative and daring.

It is for this reason—one is tempted to say *only* for this reason—that academic freedom is crucial to education and must be sharply clarified and extended throughout the elementary and secondary schools of our country. The conception of tenure as an instrument of sheer job security is a corruption of its original and traditional purpose and a basis for questioning the genuinely professional status of teachers. It is hard to argue that persons in education are any more (or any less) entitled to employment than the members of any other calling. It is not a special right to work that justifies academic freedom but the peculiarly paradoxical state of the educator. Unlike any other professionals, he is liable to strong and often irresponsible criticism from two groups, those who are fearful of change and not always informed or insightful in their questioning of the school's necessary commitment to social growth as well as social stability, and those whose confusion of the limitations on knowledge with failures of effort or alienations of loyalty sometimes assumes paranoid proportions. There is no question of the right of any group or person representing a segment of our complex society to criticize the schools as instruments for the maintenance of that society, but there is every reason to insure the protection of teachers against unjustified personal harm, the draining of energies, and the loss of valuable time that are frequently required to cope with irresponsible, unrepresentative, or unduly harsh attacks.

As a part of our faith in education, academic freedom must be passionately cherished and widely extended. As the object of that faith, education itself must contribute to an enlarged comprehension of what academic freedom means and how it functions, and it must refrain in self-disciplined ways from seeking purely personal protections and aggrandizements in its name. To make gains along this line that will be truly in the public interest, it is essential that all of us understand more fully the paradoxes inherent in American education.—EJS

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Science and society: Integration through education

THE WISDOM WITH WHICH we use the new forces of science and technology may well be the deciding factor for our future. Because the rapid advance of technology is now so closely tied to political developments throughout the world, society must not only be aware of the potentialities of science, but nations must learn to cooperate in their constructive use if society as we know it is to survive.

As we develop this theme, we should bear in mind that science and technology should be carefully distinguished. Science generally develops with motivations altogether different from those of technology, and the confusion of the two in the public mind is a common error that leads to widespread misunderstanding. By itself, science seeks only to make new discoveries about nature and its laws. Pure science demands the utmost in creative imagination, as music, poetry, and art do. Bertrand de Jouvenel (*3*) observes that,

> No one can become a scientist who is not driven by a primary urge for discovery, who is not the ardent suitor of a hidden beauty. Somewhat romantically, scientists can be likened to a company of knights dispersed in search of Sleeping Princesses, all of whom are more or less distantly related. The spirit of the quest is essential to the making of a scientist and forms a fundamental bond between scientists.

In his book, *The Two Cultures,* C. P. Snow (*4*) has advanced the thesis, which has been widely discussed, that there is a deep gulf between the scientist and the humanist, across which there is little or no communication. I do not wholly share Sir Charles's view; I believe there is much closer affinity between the arts and sciences than he avers. Certainly science is an integral part of the cultural milieu and ought to be recognized as such.

Society's Decisions

Science, in its pure form, is not concerned with where discoveries may lead; its disciples are interested only in discovering the truth. Development, on the other hand, takes the discoveries of science and applies them to a wide variety of human wants and needs, ranging all the way from intercontinental ballistic missiles to the desalination of sea water. Technology encompasses the entire spectrum, beginning with the practical aspects of science and running through development, production, sales, and distribution. It is society that makes the ultimate decision as to the uses to which new discoveries shall be put. Because of the heavy emphasis that has been placed on the role of science and technology in relation to defense and security, we have tended to underappreciate the positive role that scientists are playing and are potentially capable of playing in relation to many other problems that plague the world today.

The pure scientist, working in his laboratory, usually cannot foresee or predict the uses to which his work may eventually be put. Indeed, such is not his aim. Society, therefore, has a double obligation: to support and encourage basic research in all fields, since there is no way of predicting in advance those fields in which important breakthroughs or discoveries may occur; and, as new forces are discovered, to apply them usefully for the betterment of mankind.

History has demonstrated that most capital discoveries have potentialities for both good or evil. Now that these potentialites have become global, and even extraterrestrial in scope, they have become the concern of all nations. With the first release of nuclear energy, it was clear that international safeguards and controls would ultimately be necessary for the safety of mankind. Progress towards this goal has been disappointingly slow, however. The long stalemate over the nuclear test ban and the limitation on the use of nuclear weapons is one of the frustrations of our time. But there are a few bright spots. One is the Antarctic Treaty, under which twelve nations have agreed to set aside the continent of Antarctica for purely scientific purposes. Another, in the closing days of last year, was the action of the 103-member Political Committee of the General Assembly of the United Nations in unanimously approving "a resolution calling for the internationalization of space and world cooperation in the use of space satellites for the development of weather forecasting and communication." You will recall that this matter, too, has been stalemated for two years through the Soviet Union's boycott of the meetings of the UN Committee on the Peaceful Uses of Outer Space. The reason for the Soviet Union's unexpected action is not known. William L. Laurence, of the New York *Times*, has speculated that the Soviet action may reflect pressure from within its own scientific ranks. If so, it would be a fresh reminder of the proven ability of scientists to cooperate effectively despite national and political differences, and therein lies one of the great hopes for the future.

Pace of Technology

One of the distinguishing features of the technological revolution is the rapidity with which it moves. Until recent years, the time lag between a basic discovery and its eventual application might be as much as several decades. Now the lead time is shortening considerably. In fact, the technological revolution appears to be proceeding at an accelerating rate. The hypothesis of nuclear fission was put forth at a conference on theoretical physics in Washington, D. C., in January of 1939. The first atomic test bomb was dropped at Alamogordo on 16 July, 1945, and since that time we have witnessed the rapid development not only of nuclear weapons but of the application of nuclear energy for power, for propulsion, and a host of beneficent uses in medicine and research. It is true, of course, that the development of nuclear energy was achieved in a phenomenally short time because of the war, but in the postwar years, technological progress has continued at an accelerated pace in practically every field. Thus, we have witnessed a revolution in communications and transportation through rapid developments in radio, television, transoceanic telephones and Telstar, and jet air travel.

Chemistry has produced countless new industries based on the discovery and development of plastics. It has also created whole families of synthetic fibers, which after seriously challenging the natural fiber industries, stimulated these to numerous improvements resulting from research. The growth of the synthetic rubber industry has relieved us of dependence upon sources of natural rubber far removed from our own shores. Entire industries are being automated, and we have turned over to the electronic computer a wide variety of industrial and commercial problems that formerly required armies of clerical workers.

Progress in the agricultural sciences has enabled a rapidly diminishing number of agricultural workers to feed an expanding population, with enormous surpluses left over. During the decades of the 1950s, for example, farm output in the United States increased by slightly more than 25 per cent, while the farm population decreased by a little less than 25 per cent.

And finally, the application of science to nutrition, medicine, sanitation, and public health has added years to our lives. The average life expectancy of Americans at birth is now more than 20 years longer than it was at the turn of the century. During the same period, the crude mortality rate dropped 46 per cent, from 17 deaths per thousand of population in 1900 to nine in the middle 50s. It has been estimated that the number of people now living is between five and seven per cent of the total number of people born during the entire Christian era.

We cannot take full satisfaction in the high standards of living and the good life which science and technology have produced, however, because these benefits are enjoyed by so relatively small a proportion of the world's population. It is possible, in a few hours of air travel, to go into regions where economic and social conditions are still completely primitive.

Despite the growth of life expectancy from about 25 years in the Greco-Roman world to about 70 years in the United States at present, in some areas it is no higher now than it was at the time of Christ. In a recent article on UNICEF, the United Nations organization for the relief of children, the following statement appeared:

> There are estimated to be a billion or more children on earth, and about six hundred million of them live in areas where the average individual income is less than a hundred dollars a year, where most babies in the vulnerable period after weaning receive only protein-deficient, starchy foods, and where malaria, tuberculosis, yaws, trachoma, and leprosy—any of them or all of them—are widespread. Next year, a hundred million babies will be born, and in the economically underdeveloped countries three out of ten will die before they reach the age of six. Some of the rest—no one knows exactly how many—will be disabled for life by disease and malnutrition (5).

In the midst of our own teeming surpluses and those of other nations, we are troubled and frustrated by our inability to achieve an equitable distribution. A distinguished member of our National Science Board, Dr. Lee A. DuBridge (2), who is also president of the California Institute of Technology, has recently observed that from a purely technical standpoint we now know enough to,

> Produce enough food to feed every hungry mouth on earth—and to do this even though the population should double or treble.
>
> Make fresh water out of sea water and thus irrigate all the world's arid regions.
>
> Produce enough energy from uranium

> to light and heat our homes and offices, electrify our railroads, and run all our factories and mills.
>
> Build houses, buildings, and indeed whole cities, which are essentially weatherproof, heatproof, coldproof, and stormproof—and make every city as nice as California!

"But," Dr. DuBridge goes on to point out, "a host of techniques capable of solving mankind's problems and easing his burdens cannot be used because we do not know how to bring adequate resources of money, labor, and materials, and most of all management, to bear on the problems—or bring them to bear in such a way that the results achieved would, in a monetary sense, justify the costs."

Educational Labor Ahead

Ultimate solutions to the world's inequalities depend upon the development of capacity on the part of nations with substandard economies to solve their own problems in a way that will enable them to occupy a responsible place in terms of the world economy. Education, of course, is a necessary part of the process. This implies sound education at all levels because it is not possible to create out of an educational vacuum the numbers of trained scientists, engineers, economists, and other specialists to enable a backward nation to compete with its more sophisticated neighbors. To bridge the gap, such specialists can be trained and are being trained in other countries. For the long range, however, each nation must, as a practical matter as well as a matter of national self-respect, develop its own system of education and research. To achieve these goals, much work remains to be done. According to UNESCO estimates, about 45 per cent of the world's population is illiterate, and there are some countries where the percentage of illiteracy among the adult population is 80 percent or higher.

The reduction of poverty, disease, malnutrition, and illiteracy requires the combined intellectual resources of the physical sciences, the life sciences, and the social sciences, as well as the humanities. We need the humanities to help us to see and feel these problems, and the sciences to help us solve them. Fortunately, all these great areas are finding it increasingly possible to share techniques and processes and to work together for the solution of common problems.

There is an ascending order of difficulty in the sciences, and this appears to be linked to the ability to describe a process in exact, quantitative terms. As Lord Kelvin once said:

> When you can measure what you are speaking about and express it in numbers, you know something about it, and when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind.

The physical sciences have made the greatest progress to date because the problems can be expressed in quantitative terms and are susceptible to experimentation. The life sciences are more difficult, dealing as they do with living matter, but the development of new instruments and techniques and the application of some of the methods of the physical sciences have made it possible to deal with life at the molecular level, and progress is increasingly rapid.

The social sciences, which deal not only with the integrated being but with man in society, are understandably most difficult of all. Even here, however, it is gradually becoming possible to adapt some of the approaches of mathematics and the physical sciences. The computer, for example, now makes possible, through the construction of much more complex models than have hitherto been available, an approach to the permutations and combinations that abound in social situations. By a combination of survey techniques and computer simulation of social processes, scientists can, in effect, perform experiments in such complex fields as economics, sociology, and human problem solving.

We should do all that we can to stimulate and encourage the growth of the social sciences as the last and perhaps the most formidable of the research frontiers. In the present world crisis, however, time will not permit us to wait upon research for the solution of the most pressing problems. This does not mean that we should not take advantage of all the sciences can do to help. At a Conference of the Planned Parenthood Association in 1959, Sir Julian Huxley observed,

> What has been called the Revolution of Expectation has begun and will certainly continue. The hungry believe that they could and ought to be fed, the sick that they could and ought to be healthy, the illiterate and ignorant that they could and ought to receive a decent education.[1]

And Sir Winston Churchill, at the Mid-Century Convocation at the Massachusetts Institute of Technology in 1949, commented with characteristic directness that,

> If, with all the resources of modern science, we find ourselves unable to avert world famine, we shall all be to blame, but a peculiar responsibility would rest upon the scientists. I do not believe they will fail, but if they do, or perhaps were not allowed to succeed, the consequences would be very unpleasant because it is quite certain that mankind would not agree to starve equally, and there might be some very sharp disagreements about how the last crust was to be shared. As our greatest intellectual authorities here will readily admit, that would simplify our problem in an unduly primordial manner.

There are two important areas that afford special opportunities for effective cooperation among the natural sciences: They can collaborate, as they have so fruitfully done in the past, in the attack on large-scale scientific problems whose solution requires massive cooperative effort; and they can bring assistance to underdeveloped areas in ways that will help the people to acquire the capacity to solve their own problems.

Cooperation and Development

Let us consider these separately. The long tradition of international cooperation among scientists was brilliantly illustrated in the highly successful International Geophysical Year of 1957-1958. You will recall that during that 18-month period, the scientists of some 66 nations collaborated in intensive exploration of the earth and its environment. The Antarctic program, which received its impetus during the IGY, has developed into a continuing program. The space research program, which began with the earth satellites, also had its inception in the IGY. A feature of all these programs is the interdisciplinary approach that brings to bear on a given problem the specialized knowledge of a number of traditional fields. Thus the IGY and the Antarctic programs employed meteorologists, oceanographers, geologists, and physicists, to name but a few. The space program requires a host of skills, including those of the most theoretical physicists as well as those of the most practical engineers.

The success of such broad undertakings has led scientists to consider other critical areas of science that would lend themselves to large-scale attack by the scientists of many nations and a variety of disciplines. Such a field is oceanography, which has been neglected in the past and which promises rich returns in increased scientific knowledge of a largely unexplored area of the earth's surface as well as information of great economic value about the oceans as a major source of food supply.

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[1] Reported in the New York *Times* for 29 November, 1959.

In the United States, a major program in oceanography has been recommended by the National Academy of Sciences, projected over a ten-year period. In addition, there is the more recently suggested International Expedition to the Indian Ocean, a scientific project of extraordinary scope and magnitude in which this country is participating. Biologists, chemists, geologists, meteorologists, and other scientists are taking part in this effort, which began late in 1960 and will extend through 1964. The program is expected to increase greatly man's knowledge of the Indian Ocean's 28 million square miles, which cover 14 per cent of the earth's surface and about which relatively little is known or understood. Under the nongovernmental sponsorship of the International Council of Scientific Unions and its Special Committee on Oceanic Research, the expedition consists of vessels provided by marine laboratories of nations experienced in oceanographic research. A special effort has been made to obtain participation by each nation bordering the Indian Ocean. The biology and meteorology programs of the US effort are being organized in such a way that scientists from nations that are not planning to man research vessels may apply for US support if they wish.

At the Seventh Conference on Science and World Affairs (*1*), an international group of scientists, meeting together as private citizens rather than as representatives of their respective governments, worked out and proposed a detailed program for international cooperation in science. The program calls for international cooperation in such fields as exploration of the oceans and of the earth's crust and mantle; cooperation in space research, in the preservation and promotion of health, in studies of the effects of pollution on the earth's atmosphere and water, and cooperation in fields requiring such large-scale facilities as high-energy physics, controlled thermonuclear and plasma research, ultra-heavy-element chemistry, and large-scale computers. Such a program, if adopted by the nations, would result in important increments of scientific knowledge and would give scientists a positive role to play to balance somewhat the magnitude of the scientific effort that is presently going into military research and development.

The Promise

The challenges and the promise of science—particularly in such large-scale programs as space research—could readily absorb both the money and the energies that nations have in the past devoted to far less fruitful occupations, such as the harassment of their neighbors. Science and technology are now a matter of keen rivalry among nations, but such rivalry could be directed into more constructive channels. Perhaps it is not too much to say that in the present state of affairs, science, especially in its more fundamental aspects, is one of the few subjects on which nations can agree.

Assistance to developing countries, the second great area in which the scientists of the world can fruitfully cooperate, must be undertaken as far as possible on a partnership basis between the scientists representing technologically sophisticated nations and those of nations that are seeking to develop their intellectual and physical resources. It is not surprising that the scientists themselves are already thinking along these lines. An International Conference on Science in the Advancement of New States was held in Rehovoth, Israel, in 1960. A similar conference on the application of science and technology to the problems of new nations was held last August in Geneva under the sponsorship of the United Nations.

The problems are complex because the newer nations are naturally eager to superimpose the fruits of technological progress on an economy and an educational system which are not yet equal to the strains of the new technology. As noted by the Seventh Conference on Science and World Affairs, assistance to developing nations must be closely linked to problems of education in all its aspects. There are some problems for which immediate assistance is required, while others will require steady and long-range planning.

Still another fruitful area of cooperation, which can also be related to assistance to developing nations, is the exchange of scientists. From time immemorial, scientists and other scholars have traveled from country to country, enriching themselves and their colleagues as they went through the sharing of knowledge. Their contribution to international understanding and to the progress of science would be greatly enhanced by the provision of financial support and government backing to make such exchanges possible on a much larger scale.

I do not mean to imply in these remarks that science possesses some special formula with which it could successfully solve all the world's problems if it were given sufficient funds and a free hand. I do hope I have emphasized, however, that there are a number of important areas in which the scientists of many nations might usefully work together. Some of these are intellectual, the marshaling of the world's scientific resources for concentrated attack on the unknown; others are practical, in the form of assistance—in an atmosphere of minimum political consideration—toward removing the blights of poverty, malnutrition, and disease that continue to spawn trouble and unrest.

Political Questions

Whether the scientists are given the opportunity to collaborate in both these areas is dependent in considerable measure upon the understanding and backing of their governments. James Reston, the New York *Times*'s competent observer of the Washington scene, observed in a recent column,

> In one field after another, the nations of the West have discovered since the war that they cannot solve an increasing number of major problems by themselves. First, it became evident that the poverty of Europe immediately after the war affected the political security of the whole free world: hence the Marshall Plan. Then it was seen that the separate national armies of the Atlantic could not withstand the pressures of the Soviet Union: hence the North Atlantic Treaty Organization.
>
> Now this principle of common action on common problems is spreading to economic and monetary problems, and in due course will no doubt spread even beyond Britain to the United States in an effort to find new patterns of trade, a coordinated lowering of tariffs, a common means of dealing with agricultural surpluses and a joint program for stabilizing commodity prices and helping underdeveloped nations.[2]

Mr. Reston might also have included science as another and already proven area to which the principle of common action on common problems could be applied.

In closing, I should like to sound one

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[2] From Mr. Reston's column in the New York *Times* on 13 December, 1961.

note of warning. The pursuit and exploitation of science impose profound responsibilities. Capital discoveries are only just beginning, and continued progress will inevitably raise issues of the deepest social significance. Whether future developments take the form of stupendous power over nature's resources, of influence and control over life or over men's minds, or of traffic with our sister planets, they will certainly create problems of such concern to the human race that mankind will have no choice but to cooperate in their solution.

Outstanding breakthroughs should not be permitted to become the subject of hostile competition or to be exploited without adequate study of the possible consequences. The emphasis that has been given to nuclear development foreshadows potentialities of other possible developments, such as the ability to alter climate materially or to apply genetic research findings without proper safeguards and control. Although these developments have not yet been realized, they are well within the realm of possibility. This nation and all nations have a solemn obligation to maintain an awareness of such possibilities and to make certain that new developments are used constructively and in the interests of mankind.

It follows, too, that a public awareness of science and its implications is of the utmost importance. We have an obligation not only to train the scientists that our society requires but to make sure that the entire school population is at least literate in science and has some appreciation of the forces that are shaping our world. The establishment of scientific literacy must begin in the earliest grades and continue through the highest levels of education. The scientific revolution has overtaken the present generation of adults—taken it by surprise, as it were—but much can be accomplished through vigorous and imaginative programs. Tomorrow morning, pick up your newspapers and note how many headlines relate in some way to the impact of science and technology upon our lives. Can we afford to ignore or fail to understand the forces that are doing so much to shape our future and the future of our children?

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Some myths about professors, presidents, and trustees

For some decades a cult of immediacy has dominated the social sciences. Innumerable professors of these subjects declare that they cannot be bothered with the historical backgrounds of the topics they investigate because, they proudly say, they deal with the practical problems of the here and now. Most contemporary social questions have long roots, but these Professors of Immediacy appear to be unaware of them and also of the fact that the past has shaped both the problems and the methods employed in studying them. Thus they ignore such sage aphorisms as Abraham Lincoln's that "We cannot escape history" and Aristotle's that "He who considers things in their growth and origin will obtain the clearest view of them."

I begin with accenting the value of knowing the antecedents of current issues because I have long believed that a number of spurious historical notions have stunted the relationships of professors, presidents, and trustees and that they continue to retard the flowering of the good will so urgently needed in dealing with today's perplexities. Substantial improvements in these relationships cannot be made, I suggest, until these myths have been exposed and abandoned. I therefore devote the first half of this paper to identifying and arraigning several of the most crippling of them. In the second half, I comment on some current fallacies and half-truths which similarly hinder the ripening of good will.

Three Fictions

Consider three long-standing fictions: first, that the academic governing board composed of laymen rather than of professors is an American invention; second, that the academic presidency has no European backgrounds or current counterparts; and third, that wily business tycoons, using the commercial corporation as their model, have foisted lay boards and presidents upon defrauded professors. From among many statements propagating these apocryphal beliefs I quote two. Said Professor Anton J. Carlson of the University of Chicago twenty-five years ago in his valedictory address as president of the American Association of University Professors:

> The legal aspect of the American university is that of a business corporation, a corporation, to be sure, not for profit, but modeled essentially on the corporation for profit in the business world rather than on the traditions of the Old World universities as a free republic of scholars. . . . The president of the university, appointed by the board of trustees,

> occasionally after consultation with the faculties, is virtually the general manager of this corporation. (*4*).

In the same vein, Professor Max Savelle of the University of Washington wrote in 1957 as follows:

> It is a curious anomaly that in the United States, which thinks of itself as the most democratic country in the world, the universities, which should be living laboratories of democracy, are probably the most undemocratic in the world.... The university is thought of as a sort of factory; the president is the manager of the factory, and his word is absolute, requiring only the approval of his board of directors (regents). According to this concept the members of the faculty are hired hands. The manager of the faculty may hire or fire at will; the labor force (the faculty) is not organized as a union. The fate of the university is in the hands of one man. All he has to do is convince the regents that they should support him; and if the regents are businessmen, with the "businessman's concept" of the university, they usually will (*18*).

These and similar statements emanate from a fourth delusive belief, namely, that the medieval university, the foundational structure of American colleges and universities, constituted "a free republic of scholars." In other words, those who so believe assert that during the early centuries of European universities professors managed their own affairs unchecked by external authorities. Let me examine briefly this "free republic of scholars" fable.

Generalizations about the medieval universities cannot easily be made for the reason that two quite different types existed, the Bolognese and the Parisian. Consider, first, the University of Bologna, the archetypal university of Italy and Southern France. It arose during the eleventh and twelfth centuries primarily as a law school. Later it added medicine, theology, and the miscellany of subjects then denominated philosophy and taught by the Faculty of Arts. For a variety of reasons the students at Bologna—the majority of them laymen who planned civil careers, most of them as old as present-day American graduate students, and some of them noblemen and high ranking ecclesiastics—early acquired control of the university. That is to say, students and not professors administered the institution. They annually elected the chief administrator, called the rector, and they also promulgated the statutes under which the institution operated. Here is how an English medievalist has described those relating to the conduct of professors:

> The professor may not leave the city without depositing a sum of money as security for his return. He is fined for unpunctuality at lecture; on the other hand, when the bell rings for tierce (9 a.m.) not only is he bound to cease, but his pupils are bound under pain of fine to rise and leave him. The doctor is fined if he skips a chapter; the textbooks are now formally marked off into roughly equal divisions, each of which the lecturer is bound to have finished by a specified date. He deposits caution-money with a banker, who may return it at the year's end only to the rector, who may in turn deduct a certain sum for every day the professor is behind his time (7).

In the course of time control of Bologna and of its sister universities passed from the students to the civil governments of the cities in which they operated. I shall later show how this change resulted from the emergence of lay governing boards. It is enough at this point to observe that those who write and talk about medieval universities being "free republics" of professors obviously cannot be referring to Bologna and the universities modeled after it.

Parisian Pattern

The University of Paris and its progeny followed a quite different pattern for various reasons, including these: First, practically all their students were under ecclesiastical discipline and hence never acquired significant governing power; second, the masters (the historic name for professors) organized robust self-governing guilds; and third, the Bishop of Paris insisted that within his diocese he had jurisdiction over the religious and social behavior of both masters and students and also that his chancellor alone had authority to issue teaching licenses, that is, the antecedents of academic degrees. Inevitably a bitter battle developed between the guilds of masters and the Bishop of Paris who, it must be remarked, had no "position whatever in the university" (*16*).

The battle raged throughout the first third of the thirteenth century, both parties appealing to the papacy for support. Gregory the Ninth adjudicated it in 1231 by means of a celebrated bull which has been called "the Magna Charta of the medieval universities" (*8*). It granted Paris and other universities, however, only limited autonomy. It permitted the masters of the dominant Faculty of Arts at Paris to make statutes for the management of its internal affairs, to regulate instruction, and even to move from one city to another; but the function of examining candidates for the license to teach remained in the hands of the bishop through the chancellor of his cathedral. Further, the bishop could arrest scholars and incarcerate them in his own prisons (*21*). Thus, though the University of Paris in particular petitioned the papacy for augmented powers of self-government, it profited the universities little. As Rashdall, the leading English authority on medieval universities, has expressed it,

> . . . by every appeal to the Roman Court, (the University of Paris) naturally lost to a great extent its own autonomy. It entered into the ecclesiastical system . . . and became as completely subject to ecclesiastical regulation as the monasteries or the (cathedral) chapters (*16*).

In sum, during the Middle Ages the so-called "free republic of scholars" constituted what Thomas Aquinas called a *collegium ecclesiasiaticum* or church-connected college (*15*). Otherwise expressed, medieval universities did not have anything like the complete freedom so often alleged but, instead, lived largely under ecclesiastical control.

In some particulars, however, civil governments also thought of the universities as under their authority; but in dealing with them, rulers generally acted in consonance with the papacy. Like Charlemagne, they maintained the right to establish educational institutions and in various ways to control their activities; but they recognized the Church's superior educational competence and also its interest in the subject matter taught. The most succinct statement I know of describing the complex medieval educational relationships of church and state comes from a work by two English scholars and reads as follows:

> . . . kings founded universities in co-operation with and after gaining the approval of the Popes. . . . Just as the two powers co-operated in the repression of heresy, so they co-operated in the encouragement of learning (*15*).

Church-State Conflict

Church and state did not, however, always agree. The controversies that resulted from their differences gave the universities numerous opportunities to play one against the other and thereby to augment their prerogatives. This stratagem succeeded in part because, in the capacity of consultants to both kings and popes, academics managed to infiltrate both the regal and the papal establishments. Their success in these manoeuvres seems chiefly to account for the widespread belief that the medieval universities were completely independent bodies.

The quasi-autonomy of the University of Paris ended, however, during the fifteenth century, when Charles the Seventh and his son Louis the Eleventh brought it to heel by putting it under the jurisdiction of the Parlement of Paris and by cancelling most of the privileges granted by their predecessors and by the papacy (*12*). "For almost two centuries," Rashdall has written,

> ... the university had behaved as if it owed its rights and privileges to some *ius divinum* underived from any earthly authority, civil or ecclesiastical. It was now to be rudely reminded that privileges which the King gave, the King could take away (*16*).

A similar situation developed in England, where, however, subsequent circumstances permitted the professors of Oxford and Cambridge—the only English universities established before the nineteenth century—to retain considerable governmental power. Regardless of that, I have, I believe, educed sufficient evidence to cast serious doubts upon the validity of the "free republic of scholars" concept. I therefore move on to the allegation that lay boards of trustees are the products of the self-interested manipulations of American businessmen who have reconstructed the government of colleges and universities to resemble that of business corporations.

It will be recalled that students rather than professors governed Bologna and the universities in its tradition. They acquired their power primarily because their teachers were private entrepreneurs who received no salaries and whose income, therefore, came entirely from the lecture fees they collected personally or through their agents. This arrangement made them dance to the tune of the student administrators. Finding this onerous, however, some of the Italian professors appealed to the civil authorities to be put under contract and hence to receive salaries.

Medieval Trustees

Paying professors required that the public treasury budget funds for the purpose, and this led to the appointment of groups of officials and citizens to administer the grants and later also to supervise their recipients. The Council of Florence established the first such board in 1348 (*20*), but the majority of them got under way during the following century. They went by various names, two of which, slightly modified in translation, continue in use today in American colleges and universities—boards of curators and boards of governors. Rashdall describes their appearance and effect:

> In the course of the fourteenth and fifteeth centuries such a body... was established by the city government or prince in all Italian universities, and the real control of the university more and more passed to this body of external governors, which by the sixteenth or seventeenth century succeeded in destroying the student autonomy or reducing it to a shadow (*16*).

In short, some two hundred years before the founding of the first American college and at least half a century before Columbus set sail to discover the Americas, the primary progenitors of American boards of trustees had begun to take command of Italian higher education. The concept of the lay governing board, however, came to the New World not directly from Italy but from Scotland and Ireland, whence it had been transported from the University of Leyden in Holland and from the Academy established by Calvin in Geneva. Calvin appropriated the idea either from the Italian universities or from the University of Basle, which had followed it since its founding in the fifteenth century. It meshed perfectly with the Calvinistic tenet that laymen should participate in the management of all social institutions.

Three facts must be stressed concerning the adoption of the European-initiated concept of putting the control of higher educational institutions in the hands of laymen: First, in the United States the corporate method of organizing business enterprises did not become dominant until late in the nineteenth century, and hence the academic corporation (the word *university* originally meant corporation) antedates the heyday of the American business corporation by several centuries; second, along with other non-academic people, businessmen have been members of the governing boards of most American colleges and universities since their earliest days, their proportion, however, increasing substantially during the past century; and third, these facts harass if not demolish the still widespread belief that the business community has forced its way uninvited into American academic government.

Myth of Presidential Novelty

Two more intertwined figmental notions remain to be assessed, namely, that the academic presidency germinated in this country and has never developed elsewhere. The first of these misconceptions has been nurtured by the failure to recall that until about a hundred years ago the administrative (as distinct from the governmental) structure of American higher education essentially paralleled that of the *colleges* of Oxford and Cambridge rather than that of these institutions as *universities*. The second illustrates the magnitude of American ignorance concerning the history and present organization of European higher education. I enlarge in turn upon these two statements.

Despite the fact that late in the eighteenth century a number of American colleges began to call themselves universities, none worthy of the name emerged until the opening of Johns Hopkins University in 1876. Before that time some institutions in urban locales established or annexed existing professional schools, but the historic colleges held the center of the university stage. Thus, although tradition has long since approved a contrary usage, the legal title of the administrative head of Harvard to this day is the "President of Harvard College." Also before the maturation of American universities, the colleges of the country—whether substructures of so-called universities or unitary liberal arts colleges—modeled themselves administratively on the *colleges* of Oxford and Cambridge and not on the universities which they inhabit. Mark the word *inhabit*. I have used it because each Oxford and Cambridge college is an autonomous corporation with an administrative organization completely independent of university authorities.

The point of this condensed delineation of the administrative structuring of the two ancient English universities is this: The American academic presidency had its genesis in the headship of the Oxford and Cambridge colleges, and therefore its origins lie in the thirteenth century. Consider some of the evidence supporting this statement. First, titles: The heads of the two aggregations of English colleges use one or another of seven appellations—dean, master, president, principal, provost, rector, and warden—and all but the first and the last of these have denominated the administrative heads of American colleges. Harvard styled its first head *master* and its eighth, during part of his term, *rector*. Yale applied this latter title to its first five executives. Pennsylvania used the designation of *provost* instead of president for a century and a quarter, that is, until 1930. During their early history half a dozen other Pennsylvania institutions entitled their heads *principals*. The vast majority of institutions, of course, have always called their chief administrators *presidents* and in so doing have followed the example of four Oxford colleges (Corpus Christi, Magdalen, St. John's, Trinity) and of Queens College, Cambridge.

Administrative Tenure

Consider next the facts about the tenure of administrative heads. During the Middle Ages the major administrative officers of a *university* had terms of only a year. This practice continues currently in a number of countries and also in a modified form in Oxford and Cambridge, whose vice-chancellors (the title of their chief executives) serve for three and two years respectively. Like American presidents, however, the heads of their *colleges* have always had indefinite tenure. Until a few decades ago this meant that they kept their positions until they died. For example, one of the presidents of Magdalen College, Oxford, held his post for 63 years and lived to be almost a centenarian. This seems to be the record; but an American nearly equalled it, namely Eliphalet Nott, who about a century ago died in office after directing the affairs of Union College for 62 years. English and American retirement regulations, applying to administrators as well as to professors, make such protracted tenure impossible now; but the fact that the term of the American academic presidency has always been unspecified helps establish the fact that the position has evolved from the headship of the Oxford and Cambridge colleges.

The error of the second assertion under present review—that no administrators comparable to American university presidents function in other countries—can be disposed of with dispatch by merely naming those whose institutions of higher education have such officers: The first is Holland, where, since the establishment of the University of Leyden in 1575, the head of the board of curators of each of its universities has powers similar to those of American university presidents. Second, Scotland's university heads, called principals or vice-chancellors, have had indefinite tenure and wide-ranging authority since the sixteenth century. Third, there are the English universities and university colleges other than Oxford, Cambridge, and London all of which have been administratively designed on the Scottish model. Fourth, the Australian universities have also followed the Scottish tradition. Fifth, Canada's universities have long been organized much like those of this country. This list, may I say, is not complete; but it suffices to fracture the fable that the management of American universities is extraordinarily unique and therefore reprehensible.

For the Public Interest

I turn now to fallacies and half-truths about current operations and begin with the charge, voiced by Professor Savelle (*18*) and by others in writing but more often in talk, that American colleges and universities are undemocratically organized and administered. The scrutiny of this to-me-untenable point of view can best begin, I suggest, with the question, "Why have institutions of higher education been established and by whom?" The answer seems clearly to be, first, that they have been organized to disseminate and to advance socially beneficial knowledge, skills, and attitudes; and second, that civil governments have created them for the good of the general community. They have not been founded for the sole or even the primary benefit of professors, administrators, students, trustees, or all of them taken together but, instead, for the benefit of society at large. Hence, in all countries civil government, the most inclusive agency of society, retains the right to set them in motion and, further, to require that their governing boards represent the public interest.

In the light of these observations can American colleges and universities be called undemocratic? Those who answer this question in the affirmative hold that professors should have final if not exclusive authority in academic government and that the public interest should either be unrepresented on governing boards or be so small as to be impotent. Thus, a faction led by Thorstein Veblen has proposed that lay boards of trustees be scuttled, and Savelle and a number of others have urged that professors should hold the majority of their memberships. These measures would not, however, make academic government democratic but, as I shall develop in a moment, syndicalistic. First I describe the view of democracy propounded by John Dewey. He preached it throughout his long career and not only helped organize the American Association of University Professors but also served as its first president. Here are two of his relevant statements:

> A society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democratic (*10*).
>
> The keynote of democracy as a way of life may be expressed, it seems to me, as the necessity for the participation of every mature human being in formation of the values which regulate the living of men together (*11*).

Observe the crucial word *participation* in both these statements and also Dewey's definition of participants—"all its [a society's] members" and "every mature human being." As applied to colleges and universities, this concept of democracy affirms that all groups having an organic interest in them should participate in their government. These groups, of course, include the professoriate; but they also include students, alumni, administrators, and trustees. Concerning trustees, it should be noted, Dewey explicitly declared that because "education is primarily a public business," the "layman will always have his right to some utterance in the operation" of educational institutions (*9*).

Academic Syndicalism

The position of the Veblens, Savelles, and their fellow-thinkers differs from Dewey's and that of like-minded expositors of democracy in affirming that professors are the chief parties of interest in colleges and universities and that therefore they should control them. This doctrine is not democratic but, as the famous English socialist, Harold Laski, has pointed out, syndicalistic (*14*). That is to say, it parallels the doctrine of the syndicalists that every group of workers —to quote a student of syndicalism, "teachers, doctors, artists" and all other kinds of specialists as well as artisans—should manage its own affairs unchecked by other interest groups and only vaguely by society as a whole. The adoption of this political philosophy would mean that military men would completely control national defense establishments, that clergymen would similarly have exclusive dominion over churches, and that civil servants would be unrestrained in the management of civil governments.

I doubt that many of the professors who call American academic government undemocratic really advocate syndicalism. In any case, during its forty-seven years as the prime spokesman of faculty members in these matters, the AAUP has unequivocally repudiated the doctrine. It has espoused, instead, the democratic concept that professors should have increased powers of participation in institutional decision making. I cannot here describe the forward strides in this direction that the AAUP has helped expedite, but those familiar with the situation 50 years ago know how large and significant they have been. Much still must be done to strengthen the democratic process in many institutions, but in the country at large, it not only prospers but also steadily progresses.

The above discussion of academic democracy brings into focus a cluster of fictions about trustees and about their relationships with faculty members. The first to be considered—a half-truth—used to be widely believed, but happily it has relatively few adherents today. I refer to the opinion that since businessmen and corporation lawyers have come to be in the majority on most boards of trustees, they legislate institutional policy in the interests of what Upton Sinclair and other social critics called "the Plutocracy" (*19*) and what James McKeen Cattell called "the Kleptocracy" (*5*). I pass over this accusation rapidly because not even socialists continue to hold it and because two Columbia professors in their recent history of academic freedom in this country carefully investigated and forthrightly discredited it (*13*).

I have called this criticism of trustees a half-truth rather than a fallacy, may I remark, because to my knowledge self-serving and even dishonest trustees here and there still have places on the boards of both public and private colleges and universities and also because some governors of states and some electorates choose trustees of publicly financed institutions who, if not fiscally corrupt, certainly decide educational questions on narrow political grounds. Fortunately the great majority of trustees have high-minded conceptions of their functions and responsibilities, but some perfidious as well as some incompetent individuals still sit on lay governing boards. Further, the problems of how to select and how to educate trustees concerning education and research, the core enterprises of colleges and universities, have not yet been squarely met.

Powers of Trustees

A moment or two ago, I saluted the AAUP for rejecting the idea that faculty members should control higher education and for backing, instead, the concept of increased professorial participation in academic government. Now, however, I must point out that the current membership of the AAUP seems to be of two minds concerning who should have authority in the making of decisions about educational and research policy. One group holds that trustees should have both a strong and the final voice in such matters. The other maintains that, since trustees are not educational and research experts, faculties should have final authority in such decision making. I consider the second of these positions to be untenable, and I shall explain why.

My first reason appears in the initial report, issued in 1920, of the AAUP Committee on the Place and Function of Faculties in University Government and Administration, usually referred to as Committee T. I quote two passages from it:

> In matters of the determination and carrying out of educational policies, the members of the faculty are the experts, and should usually have the principal

> voice in the decision. But it may sometimes happen that a faculty needs to hear from the trustees on what seem to be urgent needs, in the way of changes and improvements in educational policies or their execution, that the university's constituency seeks to have satisfied...
>
> The trustees should be primarily the custodians of the financial interests of the university, and as such they should have the consenting voice in the final determination of its educational policies. They should also have the right to take the initiative in matters of educational policy, by recommending for consideration by the faculty of such changes thereof as they deem desirable.... (*1*).

These and other portions of the report state or imply three postulates: that trustees "are the custodians of the public interest," that they keep in closer touch than many faculty members with the educational and research needs of society, and that departments and even whole faculties sometimes languish if not actually ossify and cannot usually be revitalized except by trustee action. The first of these postulates is, of course, legally incontestable, and an abundance of evidence can be adduced in support of the second and third.

Freedom, Tenure, Authority

Despite the 1920 position of Committee T just summarized, however, not a few faculty members today seem to believe that trustees should limit their interests and activities to the material concerns of colleges and universities. Three years ago a book appeared which vigorously challenges this point of view. Written by a former university dean who became a leading public figure and Dartmouth trustee in collaboration with the provost of the same college, it employs another and impressive line of reasoning, to wit, that faculty members have assumed that academic freedom and tenure embrace the right of faculties to dominate educational and research policy but that this assumption is invalid. The following quotations from the book epitomize the argument:

> This is a funny kind of business! The specific persons responsible, the Trustees, cannot supervise—manage, if you please—what is the essence of the business: the educational process itself where it goes on, in classroom or lecture hall. And yet that is the heart of this particular kind of business (*17*).

After an unequivocal endorsement of academic freedom and tenure, the authors continue:

> The critical point, however, is that the reality of academic freedom and academic tenure belongs to the individual member of the faculty as an essential ingredient of his teaching and his scholarly activity. ... The faculty of a college in the aggregate does not have academic freedom, the departments of a faculty do not have academic tenure (*17*).

During its early years the AAUP affirmed both the final authority of boards of trustees in deciding educational and research policy and the desirability of trustee-faculty collaboration in formulating such policy. Recently, however, it has neglected to express itself vigorously on the topic with the result that large numbers of academics deny the right of trustees to any voice in what Ruml and Morrison have correctly called "the essence of the business" of higher education. I suggest, therefore, that the AAUP should declare itself clearly on the question. In so doing it should attend pointedly to the 1920 report of its own Committee T, which avowed that educational and research policy should be jointly determined by boards of trustees and faculties and that workable methods must be found for them to cooperate effectively.

Faculty Restrictions?

From among a number of other convoluted problems concerning trustee-faculty relations I discuss only one that I have come upon in recent books by writers who ought to know better (*3*). I refer to the assertion that in comparison with lawyers, physicians, and other professional men, professors are seriously underprivileged because trustees regulate and restrict their teaching and research methods. Perhaps this sort of thing goes on in a few retarded institutions, but during forty years as a denizen of Academia I have never encountered it. Nonetheless, since reputable authors declare it to be true, it must be discussed.

Here are the facts on the issue in the great majority of American colleges and universities. Legal entities control professorial salaries, the physical circumstances under which faculty members work, and the statutes which regulate general institutional procedures; but they do not determine the "standards and procedures" of teaching and research. Nor, indeed, do administrators, who, in fact, almost universally blanch at the occasionally made suggestion that they should project themselves into such matters. Further, except for those in the lower ranks, academics decide as individuals what courses they will teach, the methods of instruction and examination they will employ, the time of the few office hours a week they will schedule, and the part of the day that their classes will meet. Such facts as these patently belie the criticism under discussion and, instead, sustain the generalization that professors have more individual freedom in deciding upon their procedures and in allocating their time and energies than perhaps any other variety of professional people.

If this description of professorial freedom is correct, why do statements such as those just cited get into print? I have thought much on this question and have come to the conclusion that many professors have not made their peace with the fact that they belong to a different order of professionals than the typical lawyer and physician. Most such professional men are private entrepreneurs, but faculty members are institutional workers who enjoy a number of benefits which private entrepreneurs do not. These include specified and assured salaries, the major instruments required in their work (libraries and laboratories, for example), a clientele that others seek out for them, and very considerable freedom from catering to their clients' whims. These benefits not only set them apart from solitary professionals, but they also entail a number of institutional controls. Though generally quite lax, some professors protest against such controls because, being individualists par excellence, they have apparently never faced up to their institutional status.

Nor, I regret to say, has the AAUP dealt with the implication of the professional uniqueness of academics. The topic seems to belong within the bailiwick of its Committee on Ethics, which, however, has never discussed it and, in fact, went out of business for almost forty years. Now that it has been revived, I hope it will soon canvas the topic and conclude that it should move to smother the myth that boards of trustees dictate "the professional standards and practices of professors." I also hope that the Association will take steps to publicize among its members the benefits accruing to and the responsibilities devolving upon faculty members as institutional rather than private-entrepreneur professionals.

Are Presidents Necessary?

I come now to the academic presidency, about which two questions are paramount: First, is the office necessary? And second, if necessary, how can qualified individuals be discovered and prepared for it?

Although various writers have propagandized for suppressing the office and although others have urged that its term be reduced to a single year, experience seems to have demonstrated that the historic structure of the presidency has vital utility. At least six American institutions of higher education, for example, have operated under administrative plans devoid of presidents: the University of Virginia from its opening in 1825 to 1904; the University of Michigan, the University of Missouri, and Rensselaer Polytechnic Institute during their early periods; the New School for Social Research for a brief time after its founding following the First World War, and California Institute of Technology from 1921 until 1946.

These efforts failed because the idea underlying them proved to be erroneous—namely, that fast-moving social institutions can function effectively under short-term and incidental if not amateur leadership. True it is that Oxford, Cambridge, the University of London, and German universities operate under heads who stay in office for three years at most; but behind them stand permanent administrative officers who possess the actual power: the Registrar and the college heads at Oxford and Cambridge, the Principal at the University of London, and the Curator representing the Minister of Education at the German universities. In short, even in countries whose universities appear to have short-term heads, administrators with continuing terms and very considerable authority operate behind the scenes.

Yet even though unpublicized administrators abound in the universities of other countries, the fiction persists that they have few and think poorly of them. An anecdote will illustrate this observation. A little after the end of the Second World War, a former rector of the University of Munich visited Stanford and in a public address contrasted German and American higher education. Among other things, he observed that German universities pay little heed to administration and administrators and that in the opinion of Europeans American colleges and universities over-emphasize them both. To contrast the practices of the two countries, he told about a visit that an American educator had paid to his institution. He showed his guest through the libraries, laboratories, and other buildings of the University; and when the tour ended, the American, he reported, turned to him and said, "You've showed me everything but the administration building. Where is that?" The German replied that he didn't understand what the American meant; and when the latter elaborated, his host exclaimed: "Oh, you mean the janitor's quarters."

I do not want to overstate the importance of presidents, but I could make a forceful case for the generalization that the institutions which have been fortunate enough to have strong presidents have outdistanced both those with weak ones and those which limit the opportunities of their chief executives to perform their strategic functions effectively.

Qualifications and Quality

This observation leads into the second question that I raised a bit back, namely, how can qualified individuals be discovered and be prepared for presidential posts? Here, too, a misreading of history seems to me to obstruct progress toward solutions of this increasingly complex problem. The misconception is this—that only during the recent past have non-academics other than clergymen been chosen for the office. Before attempting to discredit this myth, may I say that I believe with vigor that regardless of the past experience that I shall recount in a moment, presidents ought to be chosen from within the academic family. I also believe, however, that this precept will sometimes be ignored until better methods of finding and training qualified individuals have been developed.

Here are some of the examples that contradict the notion that presidents from the political and business communities are latter-day phenomena. Harvard chose three non-academics before the Civil War: John Leverett, a lawyer and judge who took office in 1707; Josiah Quincy, a successful businessman who later served five terms as mayor of Boston, and Edward Everett, who early left the Unitarian ministry for a political career as Congressman, Governor, United States Senator, Minister to England, and Secretary of State in the cabinet of President Fillmore. Columbia has all but specialized in lay presidents, and during its over two hundred years of history has chosen only three professors. The others have included a US Senator, a judge, a businessman-editor of a New York newspaper, and the mayor of Brooklyn. United States Senators also became presidents of Rutgers and the University of South Carolina, a state senator of Hampden-Sydney, a governor of the University of North Carolina, a Congressman of Amherst, and military men of almost a dozen institutions.

These examples all come from earlier than the twentieth century. To cite non-academics chosen more recently would require a long paragraph, and I shall not attempt it. Instead, I query why non-academic presidents have so often been selected rather than professors. Among the many reasons that bear upon the question, two seem to me to be especially significant: the low esteem in which professors have traditionally held administration and administrators, and the unwillingness of a large proportion of academics to drop their research and teaching for the heavy burdens of executive office. Probably the latter of these reasons will continue to be permanently influential, but happily the former has been changing for the better. Unless I am very much mistaken, few professors today dislike presidents so intensely that they would publish a verse like the following (*2*), which appeared in a popular magazine under the title "Last Words of a College President":

> I walked and sat erect for thirty years,
> A proud merchant of correct ideas,
> Cold gladness and unsullied decorum.
> I fashioned cautious men without souls
> And brittle women with measured passions.
> Behold a traitor
> To his Creator.

Vituperation Ending?

Nor have I read for many years vituperations comparable to Veblen's declaration of 1918 that "the academic executive and all his works are anathema, and should be discontinued by the simple expedient of wiping him off the slate" or that of a distinguished Columbia professor five years earlier:

> I once incited one of my children to call her [rag] doll Mr. President, on the esoteric ground that he would lie in any position in which he was placed.... His despotism is only tempered by resignation; and in the meanwhile he must act as though he were a statue of himself erected by public subscription (*6*).

Largely because professors today participate in the affairs of society in ways undreamed of by their predecessors, and also because they have acquired large prerogatives in academic government, it seems safe to say that few of them harbor such thoughts as these about presidents. Thus the earlier aversion for administrative posts lessens; and, further, despite some much-publicized instances to the contrary, the very great majority of colleges and universities today select professors for presidencies. Many of those chosen, however, have had quite limited administrative experience and hence have to learn their jobs by trial and error. This rudimentary method of training will almost certainly be superseded. Already Harvard, assisted by the Carnegie Corporation, conducts a week's seminar every year for new presidents, but in such a short session one cannot learn very much about one of the most difficult of all executive positions. I predict that in the not too distant future post-appointment courses that run for a month or more will be inaugurated and that refresher courses like those now available for business executives will also be initiated.

In the space available, I cannot enlarge upon the problem of choosing and training administrators. I therefore conclude with a summary statement about what I have attempted to convey in this paper. I have tried to show that myths about the past interfere with a clear view of the relationships of professors, presidents, and trustees; and I have sought throughout to bespeak the urgent need of improved understanding and good will in these relationships. American higher education becomes not only continuously more complex but also increasingly more important in the life of the nation. It cannot meet its responsibilities without such understanding and good will.

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Sociophobia in mental health

Caplan, G. (Ed.) *Prevention of Mental Disorders in Children.* New York: Basic Books, 1961. Pp. v + 425. $8.50.
Miller, D. R. & Swanson, G. E. *Inner Conflict and Defense.* New York: Holt, 1960. Pp. v + 452. $6.95.
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Robertiellos, R. C. *Emotional Illness and Treatment.* Larchmont, N. Y.: Argonaut Books, 1961. Pp. 159. $3.95.

THE FIRST DIRECTOR of the World Health Organization, Dr. Brock Chisholm, at the founding conference defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Especially gratifying in this definition is the insistence that health is much more than the simple absence of illness.

The same idea, applied to the psychological aspects of man, is represented in *Mental Health in the United States.* Unfortunately, Dr. Ridenour's ideas on health occupy only the last two of her 146 pages; the rest is devoted to the history of the American struggle against mental illness. The heroes of the story are the National Association for Mental Health and the profession of psychiatry. The title, therefore, is misleading; the book is not about mental health but about mental illness. It is not a portrayal of this country's efforts, but a history of two organizations with some reference to ancillary individuals and groups. With these limitations in mind, few will be the readers who won't enjoy this slender volume and the freshness which is imparted to the material. Both the nonprofessional and the professional will find the facts more than worthwhile, but regrettably, the history unfolds in a vacuum, as if the struggle against mental illness could be understood outside the more general social changes which have occurred sweepingly and at an increasing pace in this country.

Historic accounts like Dr. Ridenour's teach about successes and errors; they provide explanation for the present and yield clues for the future. What can be the purpose of a book like the one called *The Handbook of Emotional Illness and Treatment?* In his foreword, Dr. Robertiellos states,

> The purpose of this book is to outline for the interested layman and the professional the various kinds of emotional problems and psychiatric illnesses and their manifestations, to indicate their causes, and to show what can be done

about treating them; and, through this, to enable the reader to obtain a better understanding of himself and of the people around him, ... but will also be of practical use to those who are thinking about getting psychiatric help for themselves.

With very few exceptions, it is hard to see how the author can succeed in his avowed endeavor. He undertakes to define, explain, and describe approximately 100 terms frequently used in connection with mental illness, covering diseases, symptoms, and therapies. The professional and lay person without any background may acquire new words but not their meanings. Lay people who use psychiatric terms with a thin veneer of understanding are liable to increase the confusion and bewilderment surrounding mental illness. As for people under stress, new words are not what they need; if they reach for books rather than for other human beings, they are the ones to whom new words are more of a danger than of help. Professionals in the social sciences are almost certain to be acquainted already with the material. If Robertiellos's book tells us little about mental illness, it has amost no bearing on mental health unless it is argued that knowledge of psychiatric terminology fosters prevention. The volume, it must be concluded, has little significance for either field.

There appears to exist a ready market for any book aimed in the general direction of "mental." Although the literature abounds in trivia, there occasionally appears a contribution which represents a milestone in the growth of a field. The public, vitally interested in the topic of mental illness and health, exerted its influence all the way to Washington where finally action was taken in Congress. "The Mental Health Study Act of 1955 directed the Joint Commission of Mental Illness and Health, as chosen by the National Institute of Mental Health, to analyze and evaluate the needs and resources of the mentally ill in the United States and make recommendations for a national mental health program." This is the opening statement of the final report of the Joint Commission on Mental Illness and Health, *Action for Mental Health.*

The report is and will be for years essential reading for professionals and interested laymen. The individuals selected to compile the volume represent the best in their fields. Their endeavor is characterized by mature, balanced contemplations of the problems, their causes, and possible solutions. They manage to cover an amazing amount of material through clear and concise writing. If their findings can be summarized, it has been done by the authors themselves in the final sentences of their introduction: "Our examination of the factors operating on the action level and the supporting level has shown that progress depends on the solution of the same three problems. They are (1) manpower, (2) facilities, and (3) costs."

The phrase, "the same three problems," sums up the cardinal weakness of the report. It fails to provide any vision beyond what presently exists. It asks more of what we have already, plus or minus some additions and modifications. There is no recognition of some basic defects in current approaches to the problems of mental illness and health, defects which promise no improvement for the future, even if expenses and efforts on behalf of "the cause" are doubled and tripled. It may be worth while to quote John Gordon, co-author of one of the other Joint Commission reports, who said in another context a few years ago: "No mass disease of man has ever been adequately controlled by attempts to treat the affected individuals. . . . A program based on the treatment of the exaggerated illness is temporizing and with no great promise of productive results; it is good clinical medicine but poor public health."

Some of the contributors seem well aware that the cry for "more" is not a sufficient answer. George W. Albee, one of the compilers, concludes with frank pessimism that,

> sufficient professional personnel... will never become available if the present population trend continues... changing this negative outlook... would require either a great change in our social attitudes, with consequent massive national effort in all areas of education... or a sharp breakthrough in mental health research.... (but) the trend in our social and cultural values has been anti-intellectual, anti-educational, and anti-professional.

Dr. Albee knows that the problem of mental health and illness is inextricably related to the social fabric and to the process of the nation as a whole, but the Commission generally tends to ignore social elements in its recommendations. It is one of the limitations of *Action for Mental Health* that it identifies desiderata, but not the social changes and action necessary to achieve the goals. If, as Dr. Albee remarks, American society is anti-intellectual, anti-professional, anti-tax-spending, how are new funds to be voted? Who is going to fight all the antis so that recommendations become appropriations?

In another context, the volume reports the findings of the study group headed by Drs. Gurin, Veroff, and Feld, authors of *Americans View Their Mental Health*. Under the heading, "Sources of Unhappiness and Worry among Different Groups," it is reported that, "According to this study, money and other material considerations (or lack of them) are the major source of happiness or unhappiness ... two out of five worriers blame money for their troubles." In spite of this factual statement, the report has no comment to offer as to how the social problems of economic inequities, a matter intimately involved with mental health, should be dealt with or even reconceived in psychological terms.

Whenever scientists investigate problems, they worry about the biases of their instruments and measurements and—their own biases. The expert concerned with problems of health and illness must be similarly conscious of his own biases. It is held by this reviewer that with few exceptions the social, behavioral, and the human health-and-illness scientists are sociophobic, afraid of involvement in social action, social conflict, social planning, unless the social situation is limited to face-to-face small groups or the intellectual-academic environment of a university. Sociophobia of this kind biases their findings to the detriment of the whole field of mental health and illness. Even such a remarkable grand *coup* like *Action for Mental Health* suffers.

Only the strong blinders imposed by sociophobia can explain why none of the volumes discussed in this review mention that in some instances the most immediate gains in the prevention of mental illness can be gained by social-legislative action. Social conditions heavily defended by moralistic concepts can create severe stresses for particular classes of individuals. Unwed mothers suffer; so do women who are in need of abortion for economic, psychological, and other reasons. Rather than give counseling to unwed mothers who do not want to have children, rather than have large social service staffs for placement agencies, rather than have mental hygiene clinics for unwanted and unloved children, would it not be more economical to attack the very foundation of this condition—the moralistic laws and those unhealthy social attitudes which prevent any change in this situation?

The broadest possible approach to prevention is taken in the book edited by Gerald Caplan, titled *Prevention of Mental Disorders in Children.* A large number of knowledgeable and experienced people address themselves to the relevant problems. From the organic (Studies of Organic Etiologic Factors) to the epidemiological (Epidemiological Studies on the Complications of Pregnancy and the Birth Process) to the dynamic (Preventive Implications of Family Research) to the educational (Primary Prevention in the School Setting), the field is richly covered within the rigid limits which define at present the thinking of psychiatry, social work, and the other helping professions. The concern is primarily with the individual and the family. Limited forays are made into the educational area. It is as if in spite of all the good intentions voiced on p. 7, ". . . appraisals of all sources of evidence and of theories that may provide a list of factors operating at the community level," sociophobia takes its toll and leads to the decision (p. 9) that "major deprivations in families consequent upon such general social problems as poverty are of less interest to us at the present stage than such discrete and potentially easily modifiable factors as nutritional deficiencies. . . ." An argument can be made that nutritional difficulties are often related to economic deficiencies, and someone has to fight for higher appropriations for Welfare Departments. Among other considerations, to attack subsistence problems by teaching health nutrition to economically underprivileged prospective mothers is, to say the least, short of effective.

The quality of the papers in Caplan's book is rather uneven. Some, like the epidemiological surveys, are carefully reasoned, scientifically hard-nosed; others, with a strong dynamic orientation, are concerned primarily with the individual's problems. These articles add, essentially, little that is new. The individual-centered approach to preventive action is based in traditional psychiatry. As expressed in *Action for Mental Health* (p. 130), the view holds that, "Primary prevention of mental illness requires strengthening of the fiber of society at its most vital point—the individual's ego." Another approach to preventive mental health could be expressed otherwise: "Primary prevention of mental illness requires strengthening the ego at its most vital point—the fiber of society."

Perhaps what affects the contributors' attitude most is the fact that as MDs they are raised in the tradition of face-to-face relationships between healer and sufferer, that their training in dynamic psychology is concerned almost wholly with individuals and their fate. The concepts of social factors and social action are essentially unfamiliar and strange. It would have been interesting to have among the contributors a social psychologist or ecologist.

Caplan's contributors are well aware that preventive mental health is different from mental health work *per se.* Occasionally, it is mentioned that mental health connotes living securely, enjoying life, being productive, and other properties. But this theme is left undeveloped, and various authors concentrate instead on the necessity for sturdy egos capable of withstanding large amounts of stress, generating satisfactory amounts of pleasure, etc. What they and many health experts fail to grasp is that sturdy, well functioning egos are a prerequisite for mental health but not mental health itself. Mental health consists in a set of values or goals, part and parcel of our culture and society; sturdy egos are required to attain these goals, but sturdy egos are means, not ends. Consequently, mental health is intimately related to social values, and mental health activities cannot be limited to creating sturdy egos alone but, in addition, egos which have incorporated appropriate goal-strivings; mental health requires, too, superegos with socially relevant ideals, styles of expression in tune with the social stratum of one's occupation, and much more.

At present the experts in preventive and general mental health fall far short of their goals and purposes. Whether this is a function of limitation in training, particular clinical biases, sociophobia, or what, is hard to decide. Accepting the fact that perhaps ignorance is the primary fact behind the neglect of the social variables what can be expected of future developments? And what does the research picture look like?

A good example is provided in Miller and Swanson's *Inner Conflict and Defense.* Written by a psychologist and a sociologist, it should or could represent the best of both fields. Unfortunately, the converse is true. The book is poorly written, wordy and redundant. Only a small part is devoted to experimentation, and the rest is a mixture of provocative and profitless speculation. The basic objectives are clearly stated (p. 37): "Our research represents an attempt to extend psychoanalytic principles, not by means of the clinical methods originally used to develop them, but by the controlled empirical techniques of the social scientist." It is not surprising, then, that Miller and Swanson's language abounds with psychoanalytic concepts centered primarily around the notions of conflict, anxiety, defense, etc. It is as if they had tried to characterize the id, the superego, and the conflict-mediating part of the ego into sociological terms. What they have not yet discovered are the constructive aspects of the ego, the part which is creative and productive, which enables the id to express itself in health. While the authors pay tribute to social forces, it is only to the extent that they modify the individual. The individual is conceived as a kind of passive servant of these influences, never their creator, guide and reshaper.

The fields of mental illness, mental health, and preventive health depend upon research as their tool to achieve decisive gains in their endeavors. It is on the social and behavioral scientists, wielding the research tool, that our hopes to make decisive gains depend.

The researchers, on the other hand, suffer from what has been referred to here as sociophobia. The very instrument of our conquest is biased to the extent that it can see only half the problem. No major strides can be expected until the experts in mental health discover their special domain in the more general social process and learn to conceive of people as in significant degree the architects of their own social destiny.

Book Reviews

Dodds, H. W. *The Academic President: Education or Caretaker?* New York: McGraw-Hill, 1962. Pp. ix + 294. $5.95.

President Dodds phrases his basic question in his title: Should the academic president be educator or caretaker? Throughout this stimulating volume he presses this question home, arguing vigorously, if not always convincingly, that the president must be primarily the educational leader of his university no matter what other responsibilities fall to his lot.

He begins the argument by presenting vignettes of the careers of seven great university presidents—Andrew D. White of Cornell, Charles W. Eliot of Harvard, James B. Angell of the University of Michigan, Daniel Coit Gilman of Johns Hopkins, William Rainey Harper of the University of Chicago, Benjamin Ide Wheeler of the University of California, and Woodrow Wilson of Princeton.

President Dodds's belief is that for today's president these biographical sketches "will illuminate the inmost center of his office." For this reader, they are too brief to provide this illumination, but they do justify the conclusion that each of these giants "had scholarly tastes; each came to the office possessing an academic background." Each was a man of broad interests; several were leaders in the political and diplomatic as well as the educational life of the country. "Although none was able to ignore the undergirding functions, including fund raising, without exception they gave educational philosophy, policy, and program top priority." No one of us carrying these responsibilities will question that the president should "possess a mature and consistent philosophy of education" and should "be able to interpret it to faculty, trustees, and the lay public generally." Each of us is aware both of the importance and weight of this responsibility and of our individual shortcomings.

But President Dodds's colleagues will, I believe, sadly shake their heads over his prescription that fifty percent of our time should be devoted to educational leadership. Each of us will read President Dodds's own description of the enormous range, variety, and mass of the president's responsibilities and wish (but without much hope) that the Dodds millenium may yet arrive, but few of us at this moment come anywhere near this fifty per cent formula. In chapter after chapter, as President Dodds deals with the president as administrator, as business officer, as custodian of gifts and grants, as public relations officer, as fund raiser, as interpreter to students and faculty, to alumni and trustees, and to legislators and the general public, my colleagues and I are going to find justification for our inadequacies.

In the same breath I must add that President Dodds was to me greatly stimulating. He forced me to reconsider, in a quite fundamental way, my own conception of the president's responsibilities. I feel sure this was his intention, and he has been thoroughly successful. This success is greatly forwarded by his detailed comments and analyses of practices in universities across the country. I cannot overstate how important to this reviewer were many of these detailed analytical comments on university practice. So far as I know, they are available in this way nowhere else. Perhaps equally important, I am sure that my chief officers and the trustees of the university I serve will read this volume with interest. I shall await their comments and their judgment on President Dodds's analysis with keen interest.

I hope the final effect of this book may be a real effort to make President Dodds's ideal of the presidency come closer to reality.

CLARENCE HILBERRY
Wayne State University

Etzioni, A. *The Hard Way to Peace. A New Strategy*. New York: Collier Books, 1962. Pp. 285. 95¢.

Of immediate interest are Etzioni's critical reviews of several strategies which have been tried by the West in its search for peace with the Communist bloc of nations, and particularly with the Russian Soviet regime. These strategies are evaluated in Part I. It is shown that Truman's policy of containment and Eisenhower's declared policy of massive retaliation were found wanting and had to be discarded. The Kennedy administration has turned to the strategy of multideterrence force, with its elements of brinkmanship. Another strategy criticized is that of unilateral disarmament. In lieu of these strategies, Etzioni proposes a gradualist approach.

Part II compares critically arms control and multilateral disarmament as different strategies, and instead of these proposes a scheme of gradual arms reduction, geared to the factors underlying present sociopolitical conflicts. Part III examines more broadly the global clash of the two major ideological forces and the two major global powers as factors in a new political strategy in which the author believes his principle of gradualism would be applicable. The United Nations, it is suggested, would have to develop into a world government. Nationalism would be superseded by supranationalism, which would make possible the formation of larger regional groupings or federations of nations, and eventually world government may be realized. An inherent problem would be the prevention of world government from developing into an arbitrary superstate which would jeopardize legitimate areas of self-government and the freedoms rooted in popular sovereignty.

Since the author considers his conception of gradualism as the essence of his book, a concise formulation based on his own phraseology follows: First, the United States would unilaterally take some symbolic steps to reduce international tensions. Second, after a number of introductory symbolic steps have been taken, the United States would make some concessions, expecting the Russians to reciprocate. Finally, these two phases having met with reasonable success, the United States would suggest multilateral negotiations. This third stage would probably be long and would require the development of nonviolent means of international competition and essential international institutions. But gradualism, it is claimed, would remove the psychological barriers that hinder negotiations without taking undue risks, and the culmination of this strategy would be a world government to ensure peace.

Such a strategy of gradualism is idealistic, but it is not necessarily new, and in some respects elements of it have failed many times in American (or Western) efforts to reach reciprocal commitments with Russia and the communist bloc. This conception of gradualism assumes that the communist rulers possess qualities of ethics and morality, cooperation and integrity, which have been conspicuously absent in the conquest and exploitation of their own people and also in their international relations. The gradualist principle implies that the "cold war" between the communists and the West can be resolved at the conference table. This appears quite utopian when the motivations and the sociopolitical values in conflict are so utterly incompatible. However, the mounting evidence of the failure of communist ideology and of the despotic Soviet system within Russia and the communist bloc of nations may in time lend more hope not only for the gradualist but also for other Western strategies for peace. The problems of peace versus war concern all mankind, and the author's interpretation of many vital issues should prove challenging to a great number of readers.

JOHN ERIC NORDSKOG
University of Southern California

Mayer, F. *In Defense of American Education*. Washington, D. C.: Public Affairs Press, 1961. Pp. 74. $3.25.

As one long devoted to the cause of American education, I have suffered many anguishing bruises from the postwar attack on our educational system. Naturally, therefore, I turned with enthusiasm to the title of Mayer's new book. Perchance in this word "Defense" lay some balm to sooth my wounds or some shield from further attack.

On first opening the book, I was disappointed. Knowing Mayer as the author of *A History of Educational Thought*, I was expecting a scholarly and systematic argument in favor of the American system. Since the author had taken less than 75 pages to make his case, I expected him in that space to deliver a "haymaker." When I saw these all too few pages divided into a dozen chapters, my hopes fell. Yet when I had finished these chapters round by round, I had the satisfied feeling that an adequate defense had been made after all, that the American title to a democratic system of schools was still secure. Instead of winning his bout with the critics of American education by a mighty overhand right, he had gained a decision by a number of deft jabs which clearly won on points if not on a knockout.

The constant jabbing is done with considerable literary skill. The net effect is not so much to build up an argument as to dramatize a point of view. For this reason, the book should be particularly attractive to the lay public. The average layman, who might be bored with an argument, is likely to pause for an anecdote or a dramatization of historical fact. One layman in particular may find this book profitable—the college student who is doubtful of embarking on a career in education because of the public punishment often meted out to educators these days. Mayer comes so charmingly to the defense of American education that he is likely to attract others to its defense as well.

Not at all fazed by the threats of admirals, business men, journalists, and commentators who have rained blows on the schools, he rolls with their punches and then jabs back. He does not so much deny criticism as ask his reader to look at it from a somewhat different perspective. The unfavorable comparison of American to Russian schools, for example, he parries by pointing out that the phenomenon is no new one. In the nineteenth century, we compared ourselves unfavorably to the Germans. In the twentieth century, many took the English as our yardstick, as T. S. Eliot still does. It is more important, Mayer suggests, that we prefer Athens to either of these as our model. But it is most important, as Thoreau taught us, to be ourselves!

Again, Mayer is not alarmed by the indictment that our schools are "progressive." Neither is he excited by the counterclaim that the schools are retrogressive. Once more he parries such blows by simply noting that the schools are really eclectic. They have adopted aspects of the new while still retaining facets of the old. As for those who say the politics of the schools are too liberal or too reactionary, he merely asserts that they are democratic. In any event, whatever the shortcomings of the schools, as in the case of juvenile delinquency, he insists that society must always share the responsibility. If the schools seem anti-intellectual, this motif has been characteristic in American society since frontier days.

Over and over again, Mayer finds a defense for the present system in its congruence to the ideas of educational greats of our past—Jefferson, Emerson, Mann, Alcott, Barnard, and Harris among others. Though all of these men were critics of the education of their day, we need not surrender their principles easily to modern critics.

JOHN S. BRUBACHER
University of Michigan

Book Notes

Like most things American, our institutions of higher learning are hybrids. Like most hybrids, they are remarkably hardy and adaptive, and their genetic history is both instructive and often colored by amusing incidents and accidents. That history has been handsomely told by Frederick Rudolph, whose *The American College and University* (New York: Knopf, 1962. Pp. 516. $6.75) is as engaging as it is authoritative. He documents the theme of hybridization from the inauspicious founding of Harvard College in 1636 to the sprawling enterprise of today, consisting at the start of the present decade of over 2,000 campuses and enrolling over four million students. As Dr. Rudolph, a Williams College historian, reads the record, once the colonial period was past and the new nationalism safely launched, the higher learning in America was subjected to steady conflict by the English traditions of the paternalistic and residential college and by the continental emphases of the university on research and scholarship. The outcome has been "that most striking characteristic of American higher education," a genuine fusion of the collegiate and university ideals.

While it may not have been a necessary condition for the creation of the hybrid, the climate under which the development of this not-so-sensitive plant has occurred has consistently been one of conservatism. Rudolph leaves little room to doubt the ingrained quality of the resistance, so maddening sometimes to educators of vision, by American colleges and universities to fundamental reforms. On other occasions, of course, that resistance has amounted to an admirable stubbornness in the face of pressures to adopt fads or knuckle under to external pressure. When true and novel modifications have been introduced, they have come with surprising frequency from the efforts of strong presidents and other administrators, individual men whose personal power and wiliness overcame the opposition of trustees, faculties, and the general public. The hybrid plant of the American college, however, has been fertilized by the bodies of administrative officers who typically lost such battles in the face of the all but inexorable "historic policy" of these institutions: "drift, reluctant accommodation, belated recognition that while no one was looking, change had in fact taken place."

There are some odd bits of shortchanging in this volume as well as some excitingly new emphases. Illustrating the first are such things as the neglect of the rise and modern transformation of teachers colleges, the short shrift given to the American Association of University Professors, the brief treatment accorded junior colleges and community colleges, and the much too skimpy attention paid to the issue of academic freedom. On the other hand, the excellent 20 pages devoted to the rise of football are long overdue as a serious (but charming) consideration of an element of college and university life that has for decades been far too important to warrant scholarly ignorance. Those who read Professor Rudolph's chapter and the finely perceptive and knowledgeable piece on "Football in America" by David Riesman and Reuel Denny in *Individualism Reconsidered* will know more in greater depth about our strange but potent institutions of higher education than they could possibly have known before.

It is a neglect of the complexities that make football an authentic part of an educational institution that accounts for such irritating little blobs of idealism as Laurence Flaum's *Credo for American Public Education* (Minneapolis: Burgess, 1962. Pp. vii + 146. $3.85). Nobody who admits "decency" to his vocabulary is going to object to idealism as such, but Flaum, the academic dean of Minot State Teachers College, could properly be expected to have some notion of how ideals are related to realities. He opens with this gambit about the teacher: "The teacher is a mature, well integrated, comprehensively educated, responsive human being. He is self-accepting and accepts the world about him intelligently, realistically, and, to a real degree, optimistically." Whom is he talking about? There is evidence that some rather remarkable teachers have been dubious in their maturity, occasionally torn by self-doubts of the most wracking sort, and not infrequently disposed to regard "realistic" and "optimistic" views of the world as quite incompatible with each other.

These two sentences are worth leaping upon only because they reflect the character of the entire little book. This volume is one that is strongly on the side of virtue but offers no guides as to where virtue would lead when decisions must be made with respect to the NEA-AFT controversy, when the John Birch Society or some similar group assaults a social studies teacher, in determining how to include the problem of population control in a responsible curriculum, or about the circulation of books in the school library that are objected to by a parent. One searches in vain for the way in which Dr. Flaum's credo bears on desegregation, school prayers, the teaching of communism, or merit pay. A bit angrily, one must conclude, one's irritation compounded by the triteness of the thought, that virtue at this level of abstraction is cheap and, by a kind of Gresham's Law of ideas, cheapening and debasing to the real article.

An ethical code for teachers would be in many ways a real advance, but it is one that must pay due regard to tough complexities and genuine problems both within the school and in its social matrix. President John D. Millet of Miami University in Oxford, Ohio, attends to this matter, among many others, in his admirable *The Academic Community* (New York: McGraw-Hill, 1962. Pp. x + 265. $5.95). The setting for his discussion is the shared concern of scholars and administrators over conduct by members of the academic community that results in threats to the very existence of the college or university. The recognition here of the complexities in what constitutes a clear and present danger in this context, the awareness of the differing patterns of interest among different groups within and without the campus boundaries, and the perception of the realities of very different power strivings among legitimately involved constituencies all reflect a realism and a courage, by no means untouched by idealism, that contrast happily with Flaum's floundering for meaningless yea-saying.

Millett's analysis suggests that four groups within institutions of higher education form the community: faculty, students, alumni, and administration. Membership in these groups can be sometimes overlapping, thus adding to the possibilities for both conflict and mediated agreement on working decisions. The method of operation is through consensus, and although little is said here about the techniques of achieving consensus, it may well be because there aren't any! That is, the achievement of consensus cannot be won by tricks and mechanical gimmicks but only by understanding something of the structure of an institution and facilitating communication between the relevant parts of it. About the structure and the facilitation of communication, much is said—wisely and on the basis of obviously genuine knowledge. While *The Academic Community* is not a how-to-do it book for administrators, it is something far better—a thoughtful portrayal of the organization of American colleges and universities that no one who wants to understand them can afford to miss.

Quite a different affair is the happily titled *Never Tease a Dinosaur* (New York: Holt, Rinehart & Winston, 1962. Pp. 134. $3.50) by Joseph F. Hannan, a man who obviously knows the inside of a classroom and has had a lot of fun there. There is a sense in which this is a how-to-do-it book of the best sort. It is filled with sound information on how to teach arithmetic with a bee in the school room; how to collect milk funds, lunch funds, Red Cross funds, funds for the school sweater or pin, funds for the class picnic, and miscellaneous other funds; how to accommodate a suddenly overpopulated menagerie in the interest of teaching only too "natural" history; how to preserve the democratic atmosphere in a team-teaching situation and still keep the female members of the "team" from fainting; how to know the batting averages of the school baseball team and still "democratically" send up a .190 hitter with two out, two on, and a one-run deficit in the bottom of the ninth, etc., etc. Mr. Hannan likes kids, is fond of lady teachers while lamenting the dearth of men in the nation's school houses, and is by no means unaware of the seriousness of education while having a keen eye for the funny and the downright ridiculous in virtually any day that passes under the symbolic school bell. If more of us could respond as he does to the pea shooter season and to a springtime schoolyard bursting with preadolescent energies, we might—we just might—have fewer capital-P Problems in education! —JH&EJS

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VOLUME 64 NO. 3 DECEMBER 1962

BANESH HOFFMANN
Queens College, City University of New York

Towards less emphasis on multiple-choice tests

A STUDENT who took an important test, made by one of the leading test makers, wrote to me recently that one of the questions on the test read somewhat as follows:

> Among them, Tom and Dick were not able to find enough money.

In this question the candidate has to pick the one word, *if any*, that makes the sentence incorrect.

The average student who knows the rules of grammar will doubtless pick the word "among" because when only two people are involved, the appropriate word is "between."

But the deeper student will read less hastily and realize that the word "them" in the sentence is unclear. It might refer to Tom and Dick, in which case picking "among" would be correct. But it might refer instead to a larger group of which Tom and Dick were the financial custodians, or even to a group that Tom and Dick were robbing at gun-point. If so, the sentence would be correct as it stood, and picking "among" would be wrong. The question is ambiguous. And the ambiguity can be resolved only by making some special assumption, such as that the tester was unaware of the ambiguity and therefore presumably believed that "them" inevitably referred to Tom and Dick. But only the deeper students are likely to recognize the ambiguity, and only they are therefore likely to be disturbed by it. Clearly, then, the question penalizes the deeper students; and the important point is that it does so even if they pick the wanted answer.

Penalty for Perceptiveness

One may object that the above question was not quoted exactly. Here, therefore, is a question that is taken verbatim from a booklet published by the College Board in 1954 that described its so-called English Composition tests. If the candidate believes that the underlined part of the sentence is correct as it stands, he chooses answer 1; if not, he picks the best substitute from among the other choices:

> Cod-liver oil is very good for children. It gives them vitamins they might not otherwise get.
>
> (1) NO CHANGE
> (2) , it
> (3) , for it
> (4) ; for it

At first sight, this too looks like an ambiguous question, both 1 and 3 being acceptable answers. But it is actually worse than ambiguous. If we were given the context, we might find in it some basis for deciding between two short sentences here or one longer sentence—say, to accentuate a rhythm or to break one that was tending to monotony. But although we are not given the context, we are still expected to choose one "best" answer.

We therefore examine the given words more carefully, seeking some internal clue. And we find two powerful ones. The sentence reads ". . . vitamins they would not otherwise get," not ". . . vitamins *that* they would not otherwise get." Clearly, the style is laconic. Not for it the measured formality of ", for it." The forthright ". It" has the proper tone. And if corroborative evidence is needed that answer 1 is preferable to answer 3, it is found in the word "get." Would not a writer who used the more formal ", for it" be more likely to use "obtain"?

Reasoning thus, a deep candidate would pick answer 1, doubtless with a feeling of delight at the charming subtlety of the question. If he encountered this question on an actual test, he might, fortunately for his peace of mind, never learn that he had picked an unwanted answer. But imagine how he would feel on encountering it as a sample question in a booklet describing the College Board's so-called English Composition tests, and learning that the wanted answer was not 1 but 3!

Such examples suggest some of the things that are wrong with multiple-choice tests. These tests penalize students with deep, subtle, critical minds who see subtle points that others, including the examiners, do not notice. In this connection, here is a letter that a perceptive teacher, Mrs. A. Bernstein, wrote to her principal on 14 October, 1960:

> While administering the New York Inventory of Mathematical Concepts for Grade 1, I observed what I consider to be an interesting and pertinent reaction to this test. Some of my brightest chidren hesitated the longest before marking their answers. They also sought to establish more facts than the original question provided. It occurred to me that perhaps these children brought so much knowledge to the test that they were actually being penalized. Rather than accepting the question at face value, these children were seeking greater depth and meaning than the questions required. I have brought this to your attention because I thought it might be of interest and some value in research and the development of future tests.

Invitation to the Vague

Do not imagine that ambiguous questions are rare on multiple-choice tests. They are not. See how artlessly Dean Harry N. Rivlin reveals this in the following excerpt from his review, in the *Fifth Mental Measurements Yearbook*, of the Graduate Record Examination, Advanced Tests in Education. He is saying kind words about the tests, but note the damning implications of the two words I have emphasized:

> Whenever questions deal with judgment rather than facts, there is a risk that more than one answer can be defended as the best one. There are *remarkably few* items in which the key is challengeable.

What would we infer as to the quality of American college students if an authority praised a first-rate place like Princeton University by saying that it had "remarkably few" illiterate students? Is there not something about Dean Rivlin's statement that recalls that of the character witness who said to the judge, "John is sober on Sundays"?

The multiple-choice format actually invites vagueness and ambiguity. Making a genuinely and honestly difficult multiple-choice question is not at all easy. Too often ambiguity and vagueness are used as substitutes for genuine difficulty. The tests thus become intellectually dishonest; they reduce to subjective guessing games in which the candidate does not pick the answers he regards as the best, but those he thinks the unknown examiner will believe best.

These tests are concerned solely with the candidate's choice of answer and not with his reasons for his choice. Thus, they ignore that elusive yet crucial thing we call quality. For example, suppose we ask the mailman whether it will rain today, and he says "Yes." And then suppose we ask an expert at the Weather Bureau, and he too says "Yes." They may both turn out to be wrong. Yet the meteorologist's "yes" was of much higher quality than the mailman's, though a statistical-minded, objective, multiple-choice grader might be horrified to hear us say so. As every teacher knows who has not succumbed to the statistical blandishments of the objective testers, a wrong answer for a good reason usually indicates greater ability than does a right answer for a bad reason.

As for the much-vaunted "objectivity" of the multiple-choice tests, it resides in the *process* of grading and not, for example, in the decision as to which shall be the wanted answers. Certain civil service tests are subject to challenge. They are graded objectively, and objective grades are given to the candidates. As a result of challenges by disappointed candidates, changes are made in the key. The tests are then graded anew, with the same superb objectivity as before, and the candidates all receive new grades that are just as scientifically objective as before even though they are no longer the same as the previous objective grades. As a result of further challenges, yet another set of grades may be assigned, these also being thoroughly "objective"—as that word is used by the testers.

Objectivity's Cost

Too much is sacrificed in order to attain this specious objectivity. Essay testers, too, could achieve comparable objectivity and reliability if they were prepared to sacrifice so much.

Multiple-choice tests, by their very nature, ignore skill in disciplined expression. Moreover, they are not concerned with the ability to synthesize and carry through major projects—nor even relatively minor projects that require a mere ten minutes. And, of course, they offer no scope to the imaginative, creative student. An unusual way of looking at things is definitely a handicap, as also is profundity. The tests favor the candidates who read rapidly and are quick witted and superficially brilliant. Because no explanations are permitted on these tests, the deep students have no chance to show the depth of their reasoning. When their intellectual powers transcend those of the test maker, they are in danger of picking unwanted answers by probing too deeply.

Often one hears the claim that multiple-choice tests are efficient. But their efficiency is of a superficial, statistical sort. Teachers in America used to teach their pupils the themes of symphonies by fitting the themes with childish words—a pedagogical method whose efficiency they could demonstrate objectively and scientifically, and one that they would still be widely using had not musicians, parents, and other non-scientific outsiders somehow opened their eyes to the perils of such efficiency-worship.

Statistical Hypnosis

Professor John M. Shlien (7), a psychologist engaged in counseling, discusses this matter of efficiency with wit and wisdom. He writes,

> Tests are sold to us on the basis of their "efficiency." Aside from the validity of this claim, the idea of efficiency itself needs to be re-examined. It is often a short-term concept, and a short-sighted one. Suddenly speaking, the most efficient way to get exactly the proteins you need is to take a bite of the nearest person. To get to the ground floor, jump out the window. But these very immediate goals are not our complete or real ones. Until we have thought about these, we cannot use efficiency, even if it can be delivered. Long-term efficiency may rest much more upon people going where and doing what they want than on placing them where tests say they fit best.

Despite their faults, however, multiple-choice tests are widely used. They are convenient and cheap, and they yield numerical grades with what many people believe to be scientific precision. Their use is fostered by the propaganda of the test makers, which is largely based upon statistics and claims to superior knowledge.

Statistics can have an almost hypnotic effect on the layman. They must be approached warily. Above all, the layman must not fall into the trap of believing that the testers are scientific merely because they use some of the tools that scientists use. Not every person who uses a stethoscope is a doctor.

Statistics, for all their scientific aura, can be quite misleading. For example, the usual correlations by which testers measure the validity of their tests treat all people democratically. If, in a group of 100, an Einstein is rated tenth from the top as a scientist, the effect on the validity correlation is just the same as that of a moron being rated tenth from the bottom. This hardly increases one's confidence in the value of the usual correlation coefficient as a measure of practical validity. Most tests really have poor validity, a correlation of .60 being usually considered quite good even though it implies an alarming lack of predictive power.

Correlation coefficients do not distinguish between random error and certain kinds of bias. In a school with 449 students, Getzels and Jackson (*3*) selected two groups by means of IQ scores and scores on a test of "creativity." The "high creativity group" consisted of the students in the top 20 per cent on the creativity test who were *not* in the top 20 per cent on IQ; the "high intelligence group" was made up of those in the top 20 per cent according to IQ but not in the top 20 per cent in creativity. The "high intelligence group" had a mean IQ of 150; the "high creativity group" had a mean IQ of 127—somewhat less than that of the whole school, which was 132. However, the mean scholastic achievement scores were 55 for the "high intelligence group" and 56 for the "high creativity group." Thus, the IQ tests were seriously discriminating against an important group of students. But the usual validity correlation coefficients do not reveal such biases as this. Think of the number of gifted students who are being penalized in America because they lack the IQ knack.

A different experiment yielded even more disturbing results. Professors Robert L. Thorndike and Elizabeth Hagen (*8*) made a massive follow-up study of 10,000 members of the US Army Air Force who had been given an elaborate battery of some twenty tests during World War II. Here is how they summed up part of their findings:

> There is no convincing evidence that aptitude tests or biographical information of the type available to us can predict degree of success within an occupation insofar as this is represented in the criterion measures that we were able to obtain.

Impact on Curriculum

One fact about statistics overshadows all others, though. It is that belief in them corrupts the believer, leading him to belittle and ultimately ignore whatever can not be measured numerically. Thus, all statistics used in testing ignore the non-numerical aspects of testing, especially the deleterious effects of multiple-choice tests on education. For example, the Director of Admissions at Smith College recently said, "schools are substituting vocabulary drills and word study for meaningful work in reading and writing." And the New York State Teachers Association has passed a resolution urging the State Board of Regents to concentrate on improving essay questions for examinations instead of attempting to develop completely objective tests.

The statistics are thus far from accurate measures of the whole merit or lack of merit of current testing procedures. Reliance on statistics can lead people to do absurd things. For example, the College Board, bemused by certain superficial statistics, gives a so-called English Composition Test that is of the multiple-choice type and has no English composition in it at all!

As for the action of the National Merit Scholarship Corporation in eliminating all but 2 per cent of the candidates by means of a set of multiple-choice tests, it can be condoned only on the basis of expediency; and even then it must be deplored as an unbecoming exhibition of testolatry, glorifying multiple-choice tests and dangerously exaggerating their merits in the eyes of the people. Fortunately, the National Merit Scholarship Corporation is beginning to realize that its multiple-choice tests do not measure creativity, motivation, and other important traits that should loom large in the eyes of the selectors of scholars.

What is to be done about the testing situation? Making general criticisms does not produce significant results. The testers respond by pointing with pride to their superior knowledge and ability, claiming to be as scientific as their critics are romantic, and using what I have elsewhere (*4*) called their "statistics show—" maneuver.

To counter these powerful defensive moves, I developed a new strategy of exhibiting defective sample questions and challenging the testers to defend them *explicitly*. It has produced important results, among them evidence (*1*, *5*, *6*) concerning the quality of testers that must be regarded as seriously disquieting. To make a strong case, I have concentrated on the best test makers, principally the Educational Testing Service.

The following question, exhibited in 1961, in *Harper's Magazine*, is taken from a College Board booklet, *Science*, published in 1954, which described the College Board's Science Achievements Tests:

> 54. The burning of gasoline in an automobile cylinder involves all of the following *except* (A) reduction (B) decomposition (C) an exothermic reaction

(D) oxidation (E) conversion of matter to energy.

The wanted answer is E. But the student who is unfortunate enough to understand, even in an elementary way, what $E = mc^2$ is really about finds himself at a distinct disadvantage because he knows that all of the released energy comes from the conversion of matter to energy. He realizes therefore that the question has no correct answer.

Response in Defense

It would have been simple, though somewhat embarrassing, for ETS to admit that it had not understood $E = mc^2$ when it made the question. But ETS chose to defend the question instead, and in so doing it put itself in an indefensible position, as will be seen. Here, in full, is its official defence (*2*):

> *Explanation.* The superior student is as aware of the *classical* concepts of matter and chemical change as he is of the model of *modern* physics. He is likely to be more aware than is the average student that the "conversion of matter into energy" has been demonstrated only for nuclear changes. Perhaps he realizes that if the energy freed by the burning of gasoline comes from the conversion of mass to energy, the loss in mass is only about a ten-billionth of the mass of the gasoline burned, a loss too small to be measured by available methods.
>
> When such a student is faced with the above question, he should realize that the classical concepts of matter and chemical change provide the framework in which the question is asked. He also recognizes that the first four processes listed are obviously and immediately involved in the burning of gasoline, and he selects response E as the required answer.

This is not the place for a detailed discussion of this defence.[1] ETS tries to give the impression that the question is good despite $E = mc^2$ and that ETS understood $E = mc^2$ when it made the question. But, as I have said before (*5*):

> Note how damaging are the implications if we do assume that ETS was fully aware of the meaning of $E=mc^2$ and deliberately included answer E nevertheless. For we must then ask, What was its motive in doing so? To make a question with no correct answers? Let us hope not. Then what? To penalize the superior student? One doubts that ETS would say so; yet the question is surely easier for the student who does not understand $E=mc^2$ than for the student who does. Is the latter student supposed to compensate for the deficiencies of the test maker by reading possibly hazardous amendments into the question as worded? That way lies chaos—not "objectivity." If the superior student does decide to pick answer E, does he not do so with contempt for the test maker, and with cynical disregard of scientific facts? Should he be rewarded for his willingness thus to place expediency above scientific integrity? If tests are training students to respond in this way, are they not having a deleterious effect on education? Perhaps, after all, it is more charitable to assume that ETS was ignorant of the meaning of $E=mc^2$, even if this does imply a certain lack of candor on its part now.

In defending another science question, ETS not only made elementary scientific errors, but showed that it did not even understand what its own question was asking; and then, in attempting to make a final clinching argument, it cited a scientific fact that actually emphasized the fallaciousness of its own line of defence.

The Heart of the Matter

If ETS, the leading educational testing organization, can make such vulnerable questions and can offer no better defences than it does, what shall we think of the quality of the multiple-choice tests made by lesser organizations? And what of those made by individual teachers?

To show that defective sample questions are far from rare, I have prepared a list of 12 challenge questions, constituting five per cent of the sample questions in two College Board booklets. The "gasoline" question is one of these, as is the other science question mentioned here. Of the 12 items, five are of one kind, and they constitute 24 per cent of the supply of that kind in the booklets.

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[1] Such a discussion has been published in *(5)*.

The attack on specific defective questions does not, of course, go to the heart of the matter. It is essentially an attack on a peripheral point. Its purpose is merely to make a *prima facie* case for the setting up of a distinguished and authoritative committee of inquiry that will investigate the whole matter of testing. The minimum concern of the committee would be the problem of policing tests to ensure that they meet high standards. But the committee would also have a more important function. For the professional testers have a restricted set of values. They are primarily statisticians and technicians, and the case they make for their tests, except for matters of cheapness and convenience, is mainly a statistical one. The layman, the business executive, and the school administrator are apt to be overawed by statistical arguments. But the testers' statistics are parochial, touching only the immediate and superficial aspects of testing. The committee of inquiry, with its broad view, would recognize the limitations of these statistics and would weigh against the statistical case, such as it is, for multiple-choice tests the damage that these tests do to education and to the nation. It would realize that the function of tests cannot be confined to that of testing, and it would be well aware, for example, that though a cure for the common cold might be 99 per cent effective, this admirable statistic, for all its scientific objectivity, would be a dangerously misleading measure of the value of the cure if the cure invariably left the patient crippled. The committee would be far less willing than the testers to sell our intellectual heritage for a mess of statistical pottage.

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External testing: Response to challenge

DURING THE PAST DECADE, the number of external tests administered to high school students has increased sharply. Many of these tests have been taken by students seeking admission to college or competing for college scholarship awards. New national testing programs have appeared, and participation in established programs has zoomed upward.

Although some public school administrators have almost always been involved in the planning and development of these external testing programs, the primary initiative for most of them has come from groups of colleges and from scholarship donors. The work of local administration of the programs, however, has fallen largely on the shoulders of school principals and superintendents not directly involved in the original planning and determination of policy. Because the future educational opportunities of their students were involved, school administrators could hardly decline to participate. But they could—and some did—protest audibly the imposition of these added duties in an operation they had not planned and about which they had some serious reservations.

As a result, a Joint Committee on Testing, representing three national associations of school administrators, was appointed. In due course a report, entitled not quite impartially *Testing Testing Testing*, was issued (*2*).

The committee and its staff ". . . spent nearly two years studying the nature, scope, and effects of testing, particulary external testing, in schools throughout the nation." However, the report specifically disclaims any ". . . major attempts to gather data for a statistical document." Although the investigation was based on three questionnaires, the report makes no attempt to summarize the replies. Occasional reference is made to selected figures from an unpublished summary; but these data are unsystematic and scattered, and the tone of the report is such that scholars are unlikely to cite *Testing Testing Testing* as a source of objective factual information on the nature, scope, and effects of external testing.

Six Concerns

But the report does provide a concise, forceful statement of some of the concerns that some school administrators

Dr. Henry Dyer of the Educational Testing Service read a draft of this paper and earned my gratitude for his excellent suggestions. The responsibility for what is said here, of course, remains entirely my own.—RLE.

have felt about external testing. Six of the major concerns expressed or implied in the pamphlet will be discussed in some detail in this article. Because there may be some differences of opinion concerning the degree to which these concerns are justified, they will be stated here as questions.

Are some important educational outcomes unmeasurable? The authors of *Testing Testing Testing* (2) would answer yes to this question. They say, for example,

> . . . no standardized instrument can *measure* traits not susceptible to quantification (p. 16).
>
> (Evaluation) is the inclusive process of charting and estimating a pupil's progress toward many goals, some of which are not measurable quantitatively (p. 10).
>
> It is impossible to translate human traits and potentialities into a meaningful numerical score (p. 18).

A somewhat different view, held by some specialists in educational measurement, is based on two propositions: (1) The measurement of human traits, in its most elementary form, requires nothing more than a verifiable observation that one person has more of a particular trait than another person. (2) Unless the person who has more of a trait behaves differently in some way from the person who has less of it, no basis exists for asserting that the trait is important. Thus, to be important, a trait must make a difference; if it demonstrably makes a difference, it is measurable.

In the minds of some, the process of measurement requires a standard scale, marked off in clearly defined units. The simple process of comparing two persons and saying that A has a larger vocabulary or a more vivid imagination than B hardly seems like the kinds of measurements one gets from a ruler or a thermometer. It isn't quite, but the difference is less than may appear. For out of a series of comparisons of two things at a time, a useful scale of sorts can be developed—witness the Thorndike scale for measuring quality in handwriting. On the basis of such a scale, any trait can be measured. The creation of a scale of this kind requires only that degrees of difference in the trait in question can be observed reliably.

Now it is quite true, as the authors of *Testing Testing Testing* say, that many of the traits we have names for cannot now be measured with any degree of precision or validity. But the fault does not lie mainly with the limitations of measurement. It lies with the vagueness and the extreme generality of our notions about what these names stand for. For example, if creativity, as its name and most discussions of creativity seem to imply, is a single general trait that some people have more of than others, it should be possible to demonstrate that one particular family doctor is more or less creative than one particular big-league pitcher, or that one particular concert pianist is more or less creative than one particular Supreme Court Justice. If we cannot do this, is it because we can't measure creativity well enough? Or is it because we really don't know precisely what it is that we are trying to measure?

If a course is designed to teach some important educational outcome, and if at the end of the course the teacher can demonstrate that at least some of the students have made progress toward that goal, then that outcome is measurable. If the teacher cannot, the outcome is unmeasurable, but if that is the case, no one can say whether the teaching was the least bit effective or not. A truly unmeasurable educational outcome has no more demonstrable existence than the new clothes of the emperor in the famous fable.

Knowledge vs. Maturity?

Is knowledge less important as an educational outcome than such things as wholesome attitudes, emotional maturity, social skills, and desirable changes in behavior? The authors of *Testing Testing Testing* (*2*) say this:

> Wherever a school has accepted goals for its pupils that include not only proficiency in subject matter and in certain skills, but also the development of healthy and wholesome attitudes, understanding of others and of self, desirable changes in behavior, growth in emotional maturity, appreciation of the American heritage, concern for others, good health habits, and development of social skills—wherever a school has such goals it must also be responsible for appraising its pupils' progress in all these areas (p. 11).
>
> Now the ubiquitous and ultimate question is this: How can we know that, after graduation, the school has any positive effect on behavior in those nebulous areas of citizenship and family life and on personal character (p. 11)?
>
> However, some high school pupils have learned to want answers to trivial questions because this is what *counts*. Correspondingly, some teachers are only too eager to provide students with such answers, because this is relatively easy and also *counts* for them. Knowing the right answers is equated with education (p. 21).

Whether or not knowing the right answer to a question should be equated with education depends very largely on the question. This involves no defense of trivial questions. Very few of the questions used in external examinations seem to the expert teachers and professors who have devised them, or to the students who try to answer them, to be trivial. Non-trivial questions can measure the student's command of substantive knowledge. One can defend this as the central and pervasive outcome of formal education. It is not the only outcome, to be sure, but it is the one toward which the school should bend the greater part of its energies.

The peculiar excellence of man is the scope and efficiency of his ability to accumulate and to use knowledge. His knowledge is, to a great extent, his power in the modern world. The recent statement of the Educational Policies Commission on the central purpose of American education (*1*) has emphasized the importance of the processes involved in acquiring and using knowledge:

> The purpose which runs through and strengthens all other educational purposes —the common thread of education—is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world. . . . In this context, therefore, the development of every student's rational powers must be recognized as centrally important.

The other things mentioned in *Testing Testing Testing* as goals of education are certainly worthy and desirable things. But a command of knowledge is relevant to the attainment of all of them. Wholesome attitudes, understanding of self, effective behavior, emotional maturity—these and all the others depend to a very considerable extent upon command of relevant knowledge. Indeed, it is pertinent to ask what means, other than increasing a student's command of relevant knowledge, a school may legitimately use to help him attain the other desirable ends.

One obvious answer is conditioning—that is, a system of rewards to reinforce and strengthen desired behavior, and of punishments to discourage bad habits and disapproved behavior. Habits can be powerful allies of effective behavior. They can also be powerful enemies. And human beings can be conditioned, just like other animals, to develop certain habits and to break others.

Few men can claim that their behavior is completely rational or wholly free of influence by habits to which they have been conditioned. A school can hardly avoid modifying student behavior on a non-rational, conditioned basis, even if it should try. Indeed, there probably are specific occasions when a school is well advised to adopt carefully planned programs for conditioning students (instead of educating them rationally) to behave differently than they have behaved before.

The Rational Core

But the central task of the school is a rational task. It is intended to educate free men and women, not automatons. It does not, or should not, attempt to prescribe directly and in detail how the members of the next generation should behave when they become adults. What the school can do and must do is to give the students the privilege of making their future choices, with their eyes open as wide as possible, with respect to their own behavior in the society in which they will live. It must give them the best possible command of substantive knowledge relative to the decisions they will have to make about themselves and their world. As the Educational Policies Committee has said (*1*),

> To be free a man must be capable of basing his choices and actions on understandings he himself achieves and on values which he examines for himself. He must be aware of the bases on which he accepts propositions as true. He must understand the values by which he lives, the assumptions on which they rest, and the consequences to which they lead. . . . The free man, in short, has a rational grasp of himself, his surroundings, and the relation between them.

The command of substantive knowledge does not *guarantee* health, success, personal and social adjustment, or even invariably wise and effective behavior. In a complex world of chance and change, what human attribute could possibly guarantee these things? But what is there, aside from a command of relevant knowledge, that a school can develop which offers a more promising future for men who choose to be free?

Developing a student's command of substantive knowledge is the school's central task. Good examinations, even external examinations, can do a substantial part of the job of indicating the extent and effectiveness of a particular student's command of the knowledge that is most likely to be useful to him in the future.

Are external tests unfair to some students? No written test, or any other basis for judging human beings, is likely to be completely reliable or completely valid. This means that any written test is bound to be unfair in some degree. Since the measurements provided by a test are essentially relative measurements, this means that some students will almost certainly be ranked higher and others lower than they deserve to be. Unfairness of this kind is a matter of degree, and most test producers work hard to keep that degree as small as possible.

But there are two specific charges of unfairness that deserve special comment. The first is that objective, multiple-choice tests are most unfair to the most intelligent students,

> . . . who are temperamentally unable to confine themselves to a single right answer to a complex problem. Thus, to a degree, the tests are regressive for the most brilliant, for they must provide the *right* answer—not necessarily the *only* answer and sometimes not even the *best* answer (*2*, p. 17).

If the charge here is that the constructors of multiple-choice items occasionally prepare and publish items which are later found to be faulty, the only honest plea that the test constructor can enter is "guilty." But the frequency with which this happens depends on the competence of those chosen to write the items and on the care with which they work. And the unfairness which results from such mistakes depends on how many of the items in a particular test are afflicted with them. No test is helped by having a bad item in it, but the harm that one—or even five—bad items can do is much diluted if those items appear in a test along with seventy-five or a hundred other good items.

The quotation, however, suggests that a somewhat different charge is being made. The charge is that the more intelligent the student, the more likely he is to find real merit in one of the alternative answers that the test constructor considered wrong.

If the "wrong" answer the intelligent student prefers is really better than the "correct" answer, and if this is not just the result of a careless error in test construction, the only possible conclusion is that the student is more competent than those who made the test. He, and other intelligent students like him, should be hired to make the next test of that kind. Or, if the wrong answer the student prefers is so nearly as good as the answer the test constructors regarded as the best answer that even experts would disagree in choosing the better, then again the competence of the test constructors, both as scholars and as test technicians, must be called into question.

Life's Business, Choice

But the intelligent student's problem may be, as the quotation suggests, a temperamental inability to choose the better of two answers because it is not the *only possible* right answer and to reject the poorer answer because it is not totally and completely wrong. If so, one must pity him for the agony he will experience and for the ineffectiveness he is liable to exhibit outside the classroom. For life will almost continuously present him with similar problems where the best answer is not perfectly good or the other answers totally wrong.

The difficulty may lie with the question, of course. It may be so complex and controversial that no concise answer can be considered even possibly adequate or demonstrably better than any other answer. There is no need to include such a question in an examination. To do so reflects on the competence of those who make the test. Questions of that kind should be, and invariably can be, replaced by others, searching enough to help discriminate the merely good student from the very best, but sufficiently within the competence of the test constructors so that they are able to produce an answer that experts will accept as clearly better than any other answer available.

Finally, *no solid experimental evidence whatsoever* seems to be available to support the view that highly competent students do in fact have less success than merely good students in choosing the best answers to well constructed multiple-choice items.

The other specific charge of unfairness that deserves special comment is reflected by this quotation from *Testing Testing Testing:* "Students—even gifted students—will score well on a national test only if their program of studies is similar to the program of studies envisioned by the test maker" (*2*, p. 13).

This is more true of subject achievement tests than of scholastic aptitude tests or tests of general educational development, and national testing programs tend to emphasize tests of aptitude and general development. When specific achievements are measured, separate tests are sometimes provided if radically different curricula are being taught to different students.

The committees responsible for external tests are sensitive to this problem. They try to concentrate on measuring achievement of the common essentials likely to be taught in any good course in the particular subject. Hence, how well a student scores on most national tests probably depends far less on any unique characteristics of the particular course or courses he has studied than on how well he has mastered the generally accepted central features of all good courses in that subject.

Are important external tests likely to harm education by promoting or preventing curricular change and by determining which areas of the curriculum will receive greatest emphasis? The authors of *Testing Testing Testing* believe that tests could and probably do have this effect. Witness their words:

> Test makers . . . should be sensitive to the fact that national examinations often lead to the establishment of priorities of knowledge and predetermine areas of the curriculum held to be of most worth (p. 22).
>
> Testing programs of critical importance —such as those which provide the basis for selecting scholarship winners—may not only curtail curriculum change; they are in a good position to control the curriculum altogether (pp. 24-25).

There is no doubt that testing programs do affect curricular emphases and changes. Scholarship testing and college admission testing are probably at least partly responsible for the increased emphasis that students, parents, and schools have placed on academic achievement in recent years. Further, it is quite easy to imagine influences of testing programs that could be harmful. But few teachers or school administrators seem inclined to charge that current national programs are now *determining* the curriculum. Moreover, most of them agree that the influence these programs have had recently has been, on the whole, much more beneficial than harmful.

Who Makes the Tests?

The "test makers" are predominantly expert teachers and professors. They are sensitive to the influence their tests can have, and they aim to keep that influence moderate and constructive. Some limited programs, like the Advanced Placement Testing Program, have as their primary purpose the encouragement and reward of specific additions to the school program. These are usually voluntary and under the control of school and college representatives themselves. Far more praise than blame has attended the appearance and growth of most enterprises of this type.

Are measurement and evaluation synonymous? We would agree with the authors of *Testing Testing Testing* that measurement and evaluation are not synonymous, but we would place a somewhat different emphasis on the distinction between them. The authors suggest that *evaluation* is a more inclusive term than *measurement*. They say,

> To evaluate . . . means to appraise, not just to measure (p. 10). . .
> In contrast to measurement, which is often confined to experience that can be stated only in absolute terms, evaluation involves the relative features of a pupil's growth and experience (p. 10) . . .
> Evaluation, in contrast to measurement, provides more than just a score on an *objective* test (p. 11) . . . It may be significant too, in this connection, that *measurement*, which is the term associated with standardized testing, is the process of determining quantity as distinct from quality (p. 10).

The Joint Committee on Testing does not define here what is meant by the term *measurement*, but it seems clear that its members regard a measurement as something more refined, elaborate, and specialized than "a verifiable observation that one person has more of a particular trait than another," the definition of elementary measurement mentioned earlier. In terms of this conception, a characteristic that cannot be measured cannot be "evaluated."

Any verifiable report that one person has exhibited more or less of a particular characteristic than another is a measurement. John's score on a spelling test is a more refined and possibly a more reliable measurement of one of John's characteristics than his teacher's statement that "John studies harder than Robert." But both are measurements. Instead of regarding measurement and evaluation as alternative ways of obtaining information about pupils, it seems preferable to think of them as successive stages in a total process.

That process is one of interpreting and integrating measurements to reach an educational decision, and it constitutes what we would mean by an evaluation. This concept of evaluation does not differ greatly from that implied in *Testing Testing Testing* by the terms "evaluation" and "appraisal." Our concept of measurement, however, is considerably more general and inclusive.

Joint Committee Errors

In suggesting that measurement, even using objective tests, is absolute, the Joint Committee simply errs. There is a strong element of the relative (*i.e.*, comparison of two or more magnitudes) in all measurement, even physical measurement. Most educational measurements are clearly relative. A percentile rank, a standard score, an age or grade equivalent score, all report the performance of an individual relative to certain other individuals.

Another error, it seems, is the implication that *quantities* can be measured but *qualities* cannot, that qualities must be "evaluated" or "assessed." The terms quantity and quality are so often used distinctively that it is easy to fall into the mistake of assuming that some things, like the weight of a person or the number of people in a town, are quantities, whereas other things, like a person's integrity or the cleanliness of a town, are qualities. Actually, weight, population, integrity, and cleanliness are all names of qualities. Some of them are easier to quantify than others, but all are subject to quantification. If they were not—if no ways could be found of making verifiable observations that one person or town had more of a particular quality than another—we would quickly lose interest in them as qualities. Every quantity measures some quality. Every quality can be quantified in some way for some human purpose.

The process of quantifying a quality always requires or produces a very precise, specific definition of it. If the quality is really a composite of independent qualities, like the flavor of a blackberry (sweetness, juiciness, pungency, etc.), or if it is a generic quality which means quite different things in different settings, like beauty, any attempt at over-all quantification is likely to be quite crude, indefinite, and unreliable. But resistance to quantification reflects vagueness of meaning. If beauty, as a generic quality, is difficult to quantify, it is because beauty, as a generic term, has little value in reporting observations. Each person is free to make it mean whatever he chooses. Such terms may serve a useful function as social lubricants, enabling people to seem to agree when in fact their perceptions and reactions may be quite different. But they do not contribute much

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to enlarging the universe of one person's perceptions and understandings by enabling him to profit from another's. Nor do such terms of little objective meaning contribute much to meaningful reports of a person's qualities or achievements. Relative evaluation on the basis of unquantifiable qualities is a logical impossibility.

Good evaluation is based on many good measurements. Not all of these need to come or ordinarily do come from objective tests. The preference for objective tests, when they are available, arises from the precision and reliability of the measurements they yield. Education would gain greatly if it were reasonably convenient to make all of the measurements that contribute to a teacher's evaluations as precise and objective as those obtainable from good written tests. This is not to say that objective tests are so very good. It is to say that other measurements which often contribute to an evaluation are often far worse.

The Joint Committee on Testing implies, quite properly, that it would be a serious error to base the evaluation of a pupil's achievement or aptitudes solely on the score of a single objective test. The overwhelming majority of teachers, professors, school administrators, and college admissions officers do not make so egregious an error. But the committee itself errs in implying, as it seems to, that less use of objective tests and less concern for precision and reliability in the measurement of clearly defined traits will improve educational evaluations.

Can academic success be predicted? The Joint Committee believes academic success can be predicted to a degree, but emphasizes that this prediction is by no means perfect. "A considerable number of individuals succeed despite all formal indications to the contrary; and many who could succeed are eliminated from the race because their qualifications are not reflected on standardized test scores" (p. 19).

The committee's position on this question is essentially sound, though it may be overstated. The proportion of students who succeed when *all* formal indications —aptitude test scores, previous academic records, recommendations of former teachers, etc.—point to failure is probably much less than considerable. Nor is it likely that a student will be denied a college education if all indications of his capability are favorable except for his scores on standardized tests.

Hazard of Prophecy

Predictions of the future behavior of human beings is a complex and hazardous enterprise. Mistakes are inevitable. It is well for all concerned—those who test and those who use test scores; those students who are selected and those who are not—to remember this fact. But this constitutes no argument for less use of tests in selection. When circumstances force selection, as they frequently do, the broader and more reliable the basis of relevant data on which to make selections, the fairer and clearer is the selection process. Less use of external tests would not be likely to improve the accuracy of predictions of academic success.

But those engaged in the testing of students for the prediction of academic success can err, too. Forgetting how time and chance magnify the errors inevitable in all predictions, they talk hopefully of identifying college-capable students as early as the junior high school. It is quite true that some individuals are pretty good bets to attend college the day they are born, and others are equally good bets not to attend college. But for the vast majority, what circumstances do to them and what they do for themselves will be potent factors in determining whether they ought to go and will go to college.

Does this mean that aptitude tests should not be used in the junior high school? Does it mean that educational guidance has no place at that educational level? Not at all. The student whose high level of educational aptitude is accompanied by a low level of educational aspiration may need to be encouraged. If a student's parents have educational aspirations for him that are quite unrealistic, the student may need help in coping with the pressure, and the parents may need help in accepting more reasonable goals. Educational guidance on these and other problems is indispensable at the junior high level.

Aptitude tests can supply some—but only some—of the information needed for wise guidance. They should seldom be allowed to become the sole basis or justification for an important educational decision. If the sum total of the evidence available to a counselor indicates that a particular student has very limited educational aptitudes, the counselor may reasonably advise the student not to take certain courses. But the aim of the counselor and of the school should be to keep open as many doors of opportunity, including college admission, as possible.

Academic success can be predicted, but those involved in the process must leave ample room for experience to correct at least some of the mistakes that will inevitably be made.

A final word. One of the headings in *Testing Testing Testing* reads, "To Teach Without Testing is Unthinkable." With this sentiment we agree, and on this note of agreement, we conclude. Tests, including external tests, can be powerful, useful educational tools. Like all educational tools, they are always more or less imperfect, and sometimes they may be used improperly. Challenges like that issued by the Joint Committee on Testing can stimulate a useful discussion of the values and shortcomings of external educational tests. They can lead to more careful and, hence, more effective uses of tests. We believe this was the intent of the Joint Committee's report, and we hope that this will be its effect.

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Science, values, and psychometry

As important means for social understanding and direction, standardized tests and the uses made of them constantly must be reviewed and examined. Our understanding of tests will be better if we perceive them as parts of our complex culture.

The number and length of affective terms and emotional words in a discussion or report provide a convenient index of the extent to which the participants are concerned with questions of values as opposed to questions of fact. The application of this index to recent discussions of testing in education suggests that we should pay more attention to why people feel the way they do about tests than to the reasoning they use in arriving at their conclusions. The tone of current discussions and disagreements about testing implies that the central issues really are not the amount of testing, the $4.00 fee, the possible misuse of tests, or the three hours on a Saturday morning, but, rather, that more basic values and attitudes may be the sources of contemporary criticism.

Two behavioral facts underlie the use of standardized tests in education: (1) Individuals differ, and (2) to direct a process of growth and change requires understanding.

Variability and Socialization

Variability of behavior among individuals is not a recent discovery; psychological differences have been recognized and considered important prior to Plato and after Riesman. The extent, stability, nature, and significance of these differences have been appreciated for ages; but only relatively recently has consideration of them been systematically incorporated into social philosophy, and only during the past century have such differences become a matter of scientific inquiry.

Education is a process of establishing individuals in society, a means of making the person a part of his ever changing culture. The purpose of education is to change behavior, and the desired general direction of these changes is broadly agreed on. Thus, education is an attempt to direct a particular set of behavioral phenomena, and the more known about the phenomena to be directed, the more effective such direction is likely to be. The teacher must understand the pupil.

Most persons, regardless of the extent to which they accept or reject standardized educational and psychological tests, do not attempt to refute these two statements. If a person believed that all people were similar to one another or that education could proceed without knowledge of those to be taught, then the need for educational tests and other methods of observation and understanding could be denied. Persons opposed to the use of standardized tests, however, do not deny these statements. Consequently, their resistance must have other sources.

Here we will not attempt to psychoanalyze persons who favor and those who oppose tests. We will not review the relationships between these people and their parents or explore the phallic significance of the IQ. We will not examine the Oedipal threat of the College Entrance Examination Board Tests; neither will we examine the strands connecting the Minnesota Multiphasic Personality Inventory to the collective unconscious. Rather, we will attempt to discuss briefly some of the personal commitments which cause people to be attracted and repelled by standardized tests.

To begin with, to varying degree, people need to objectify the world around them. Standardized tests facilitate our dealing with things external to the mind of the observer and provide to their user a sense that he is dealing more explicitly with external reality. Test scores are particularly satisfying to persons with strong needs to deal with things (realities?) as opposed to thoughts and feelings. They provide a medium for transforming intuitive observations and impressions into things of apparent reality.

Somewhat related to and opposed to these needs for objectivity are what appear to be needs for subjectivity. The personal philosophies of some persons strongly lead them to the conviction that knowledge about behavior, like most or all other knowledge, has reality only in the experience of the individual, and knowledge cannot be objectified. To them, the characteristics of others are sensed through intuition, feeling, and inner experience. Knowledge about others loses its true essence when it is systematically observed, analyzed, ordered, and quantified.

To Measure Men?

The needs for quantification in some people are stronger than in others. At one extreme, quantification is magic; numbers have superstitious connotations. Many persons are impressed by the extent to which mathematical analysis and quantification have aided our understanding of other natural phenomena, and they are eager to apply quantification in a very similar way in their attempts to understand human behavior.

At the other extreme are people whose needs lead them to deny that behavior can be quantified. Some realize the technical difficulties of applying quantitative methods as used in the physical sciences to the behavioral domain and, in the absence of appropriate units of measurement and points of origin, contend that measurement concepts are not appropriate in studying behavior. Others who object to quantifying human behavior do so on more aesthetic grounds, insisting that behavior itself possesses certain characteristics that bar it from quantification.

These two statements about quantification lead to the third attitude present in our discussions of standardized tests. Some persons, because of the nature of their work, and others, because of their own personal needs, place strong emphasis on the communication of information concerning the behavior of others. Information about behavior that is not objectified or quantified is difficult to communicate, and such communication tends to be imprecise, non-rigorous, and easy to misinterpret. The counselor, for example, finds it easier to say (and the college admissions officer finds it easier to understand) that Susan's score on the College Entrance Examination Board Tests is 600 than to say that all of Susan's teachers since the first grade have indicated on cumulative records that Susan is a bright child, that she learns more quickly than most other children in the class, that she obtains good grades in school, that she uses a good vocabulary in school and other conversation, that she understands directions quickly and well, and that she solves many kinds of problems with facility.

Some persons' values lead them to contend that in order to obtain the advantage of easier communication, we have oversimplified our analysis and understanding of behavior. Susan's behavior does not consist of a test score, and the counselor and the college admissions officer should both be interested in more than the number of questions answered correctly on a test and the standard score derived from that number. A related argument contends that test methods are not sufficiently accurate to be used for purposes of such communication; not only does the use of test scores result in oversimplification, but also in excessive error.

Some who favor the use of standardized tests, on the other hand, contend that they force the user to think more rigorously, that they result in more disciplined thought processes and in more exact and accurate conclusions. The authors of standardized tests must define the behaviors of concern to them and logically relate the measurement process to these definitions. Such rigor reduces the probability that the test user will employ terms and concepts loosely and forces him, or at least allows him, to think logically and reasonably. It encourages the test user to apply concepts of specific abilities and traits in his consideration of students and at the same time attend to the differentiated aspects of any given student's behavior.

But What of Holism?

The very characteristics of tests that satisfy certain persons' needs for rigorous thought, however, cause others to fear that standardized tests, through their attempt to analyze behavior, violate what is the essential personality of the individual. These persons conceive of personality as a constellation of forces and energies in constant interaction with one another, and the very act of observing only one segment of the constellation results in the observer's seeing something other than the "real" personality. If personality is to be understood, it must be viewed as a whole, and standardized tests, being analytical, defeat this holistic perception. Sometimes, underlying such arguments, are the denial that behavior is caused as are other natural phenomena and the contention that the theory of personality associated with standardized tests is based on an overlysimplified theory of causation borrowed from nineteenth-century natural science. Sometimes this point of view is colored by the fear that such analysis will make the test user forget that man is a social being and now, when more attention than ever must be given to men's relationships to one another, result in our giving them less.

Similarly, some people have strong taxonomic needs; they want to categorize their experiences and perceptions. For these persons, knowledge essentially consists of relating experiences and sensations to other experiences and sensations. Perception is relative, and knowledge is empirical. But some people have less need for such an empirical approach to knowledge and deny that behavior is systematic or perhaps even consistent. For them, an attempt to categorize behavior destroys it, and the use of standardized tests to sort out persons on the basis of observed actions is more than a waste of time; it detracts from the very integrity of the individual.

Already implied in our discussion is the need of many to apply the concepts and methods of the other natural sciences to the study and understanding of human behavior. To such people, behavior is caused and orderly, to some extent predictable, and properly subject to analysis and to the methods of observation, taxonomy, prediction, and control used in other sciences. Made anxious by these convictions are persons who fear that such an approach will have us view man as a machine. They fear that the way psychologists, teachers, and society conceive of man will change man, and that approaching behavior as an object of scientific inquiry will result in man's behaving like a machine and losing those humanistic attributes including his aesthetic appreciation, his respect and dignity, and his worship of the unknown. Existentialists and traditional humanists seem to fear that the processes of giving and taking tests may increase the person's self-consciousness and restrict his power to react spontaneously and creatively to himself and others. The student tested may become simply an object instead of a man.

Frightened by Leadership

The ultimate purpose of persons using standardized tests in education is to understand and direct behavior, and it is this that frightens some. The teacher and the counselor are attempting to produce changes in the pupil. The nature of these changes is related to the objectives of the school, and the school's objectives are determined by many persons and groups, including the school board, the Parent-Teacher Association, the superintendent and principal, the editor of the local paper, the students themselves, and—perhaps most importantly—the teacher and counselor who work directly with the student. These objectives sometimes are quite explicit and detailed, *e.g.*, learning how to do differential calculus in the twelfth grade, or they may be general and comprehensive, *e.g.*, attaining intellectual and emotional maturity. Nevertheless, the community assigns to the teacher and counselor the responsibility for producing directed changes in the student, and the school welcomes means for increasing its understanding of the individual boy or girl and for improving its capacity to evoke expected changes in behavior as society requires it to do.

Some persons, perceiving tests primarily as instruments of behavior control, fear the power they presumably confer on their users and interpreters. Perhaps we have in opposition here a need for authority and a need for anarchy. Universally recognized is the necessity for social direction; less agreement is found regarding the amount and nature of such direction.

In a somewhat different vein, fears about aggression and the defensive needs of some of us influence our perceptions of the nature, purposes, and origins of democracy, and testing sometimes is perceived as a threat to the democratic way. Democracy may be equality, and if equality means that people are essentially alike in their characters, rather than that they enjoy equal opportunities, then tests attack the basic assumptions. Tests are used to study differences, and if these differences should not exist, then neither should tests.

Tests themselves, however, are not evaluative, and test scores provide a basis for concluding that persons are "equal but different," just as do measures of physical attributes. Test users, like their opponents, may be democratic or nondemocratic.

Additional miscellaneous, although not unimportant, forces also influence our different attitudes toward standardized tests. Some of us are more or less willing than others to subscribe to custom, and the extent to which a person has been reared professionally in an atmosphere where standardized tests are accepted and used partly determines his attitudes toward tests. The status that tests have in a person's immediate culture influences how he regards them, as do the prestige attached to persons who use tests or who approve or disapprove of tests. Attitudes toward other means of observation and evaluation are also relevant; a person may be more accepting of standardized tests because he is disillusioned about the usefulness of other observational procedures. Or, because he is strongly enthusiastic about other observational procedures, he may think less of tests.

A Reconciliation

Reviewing behavior objectively hardly requires one to forego one's humanity. One can understand the nature of art appreciation and at the same time derive satisfaction from viewing a Degas or a Utrillo. One can know and understand another and at the same time respect and love him. In fact, usually such knowledge and understanding increase respect and love. One can test and measure behavior and continue to grant humanity to the one being measured and examined.

Quantification and numbers need not change the realities to which they are applied. The content of thought and understanding is concepts, and numbers and quantification can be applied to concepts. As our concepts become clear and accurate, our contact with reality becomes closer and more satisfying.

Knowledge possessed by a lone individual is satisfying and useful, but knowledge communicated and shared with others provides new satisfactions and gives new uses. If the communication of poor information reduces its potency, so the poor communication of accurate information similarly reduces its power. Scores from standardized tests serve as meaningful symbols to provide a vehicle for more accurate and effective communication.

The understanding of complex personalities demands more careful observation and more rigorous thought than the understanding of simpler structures. As our appreciation of the full complexity of personality increases, so must our demand for rigorous and careful thought and analysis regarding human behavior. No antithesis exists between rigor of analysis and complexity of personality.

Our culture is committed to both an intuitive appreciation of personality and a rational understanding of its products in behavior. Test scores are one means we use to aid in our conceptualizing the person in order to understand him more fully. Test scores do not substitute for behavior. They are not part of the individual; they are part of the thought processes of the persons who use the test.

In conclusion, we accept and we reject standardized tests for many of the same reasons we accept and reject other elements of our culture. We are materialists, and we are human; we are analytical, and we are intuitive. We organize and plan our society; we maximize our freedoms and individualities. We predict behavior, and we attempt to overthrow those predictions. We think and we feel; we know and we fear. To deal effectively with any aspect of complex contemporary life, we must deal effectively with these very human oppositions in ourselves. Standardized tests are no exception.

Contributors

Few controversies about a highly technical matter have raged recently in education as violently as the current fury about objective tests and national testing programs. In an effort to increase light and decrease unnecessary heat, the *Record* this month brings you a discussion of this problem by three highly qualified men. Professor **Banesh Hoffmann**, a Queens College physicist and mathematician, leads off with an argument for the sharply reduced use of objective tests and an analysis of some of their weaknesses. Dr. Hoffman, whose new *The Tyranny of Tests* (Crowell-Collier) is creating quite a stir, first presented these ideas at a conference last year at the University of South Florida. Dr. **Robert Ebel**, a vice president of the Educational Testing Service, replies by way of a clear statement of the rationale for large-scale testing and by distinguishing occasional technical errors in test construction from inherent flaws in the whole conception of tests. Finally, Dr. **Ralph Berdie**, whose experience as director of the Student Counseling Bureau at the University of Minnesota has colored his extensive psychometric sophistication with intimate clinical knowledge of the individuality of students, provides a helpful examination of the entire issue and attempts to place it in the perspective of wisdom.

Wisdom is also the focus of Dr. **Arthur Larson**, director of the unique World Rule of Law Center at Duke University. A distinguished attorney, specializing in international law, Dr. Larson has much to say, all of it sharply relevant for genuine educators, on the distinction between law and politics in the settlement of international disputes and on the legal mechanisms that might increase the chances for world peace—a prerequisite to the very continuance of education as an instrument of civilization.

Education has been much talked about as a civilizing instrument in the emergent nations of Africa lately. Through the courtesy of *Africa Report*, we reprint Sir **Eric Ashby**'s address to the International Seminar, sponsored last December in Sierra Leone by the Congress of Cultural Freedom. Master of Clare College, Cambridge University, Sir Eric makes it clear that higher education in the world's new countries, whatever their useful borrowings, must be authentically indigenous if they are to serve world civilization effectively. In an age of ubiquitous foreign educational missions, the argument that African universities must first of all be African cannot be ignored.

One of the crying needs of world civilization, of course, is strong and imaginative leadership. With "education for leadership" a phrase in many mouths, Mr. **Rupert Wilkinson**'s comparative study of Confucian and Victorian methods of "educating the ruler" will provide a useful historical setting for all of us. Mr. Wilkinson, an Englishman recently graduated from Harvard, is now a graduate student at Stanford.

One of the defining attributes of a civilization is its responsiveness to the arts, both those that are part of its heritage and those that reflect its contemporary serenities and strains. Modern music is the concern this December of Dr. **Ruth Watanabe**, the well-known musicologist and librarian of the Eastman School of Music at the University of Rochester.

Finally, Professor **Carl Kumpf**, a member of the education faculty at Rutgers University, contributes our essay-review. Taking off from a clutch of recent books on the teaching process, he discusses the complex conception of the teacher and his (her) skills as it seems to have evolved at this stage of our history.

And a merry, merry Christmas to all!

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Practical programs for peace

THE BEGINNING POINT of any practical program for peace must be this common sense proposition: The essence of the task is not getting rid of conflict in human and international affairs, but keeping inevitable conflict from breaking out into organized war.

The so-called underlying causes of war, as we are often told, are to be found in deep-lying clashes of national interest, stemming from ideological, religious, racial, economic, strategic, territorial, and historical struggles and fears. To make these clashes, struggles, and fears evaporate would be a good way to achieve peace *if* it could be done. But it cannot be done. Any realistic approach to the urgent problem of peace must take these clashes as a given—and indeed a growing—quantity.

Our second common sense proposition must be this: Ultimately, there are only two bases on which international clashes can be resolved; one is might, and the other is right. The greatest revolution of all in this age of revolutions is the effort to substitute right for might in the settling of international disputes. This is a landmark we passed long ago in our domestic affairs. In international affairs, we begin to see it only dimly in the distance, but we know instinctively that we must reach it if we are to survive.

At once the crucial question arises: In international conflict, how do you determine what is "right"? The answer is simplified by identifying two quite different kinds of dispute. The first is a dispute over claimed present rights. The second is a dispute over whether present rights should be changed.

Suppose we ask this question: What is the "right" wage for a particular steel worker? If there is an existing wage contract calling for $3.00 an hour, and if the employer refuses to pay the worker $3.00 an hour, it is easy to settle the rights and wrongs of this controversy. If necessary, the parties can go to court, and the court will decide what is right on the basis of existing agreements and law. But suppose the wage contract expires at the end of the year, and the union demands $4.00 an hour for the next year's contract. How do you decide what is "right" in this dispute about changing present legal relations? Obviously, you cannot go to court; there is no conceivable way that the court could make the parties' bargain for them. The only way of settling this kind of dispute is through negotiation, compromise, and diplomacy. For convenience, we may speak of the first kind of dispute and settlement as "legal" and the second kind of dispute, involving changes in rights, as "political."

Law and Politics

The practical difference between the political and legal settlement of a controversy is this: In a political settlement, there are no underlying rules controlling the outcome, no authoritative tribunal which the parties are bound to utilize, and no ultimate authority which can impose a settlement if the parties disagree. Each party drives the best bargain he can on the strength of the power he can muster behind his opinion, whether the power is that of economic pressure, armaments, propaganda, or public and "world" opinion. In a legal settlement, by contrast, there are substantive rules accepted by both sides which control the outcome, a tribunal with authority to apply the rules to the particular facts, and methods of ensuring compliance with the decision once it is rendered.

Law, whether domestic or international, is the practical translation of the morals, customs, and experience of human beings into workable and applicable rules and principles. In this broad sense, there is nothing presumptuous about equating what is "right" with law, because law is man's attempt to institutionalize this very concept of what is "right."

Since some international disputes are "legal" and some "political," it would be a mistake for even the most ardent enthusiast for a world rule of law to suggest that all international disputes should be settled by legal means. This is not my theme. Rather, my theme is that each kind of international dispute should be settled by the technique appropriate to that dispute. Political disputes—that is, disputes about *changes* in rights—should be settled by political means. Legal disputes—that is, disputes about *present* rights—should be settled by legal means. In a mixed legal and political dispute, the legal issues should first be resolved by legal techniques so that the political issues can then be more effectively handled by political methods. Our troubles in the past, like the apparent deadlock in international negotiations now, stem from our failure to recognize that a very large part of international controversy today is legal in this sense.

Berlin and Elsewhere

The most dangerous and persistent dispute of all, the Berlin crisis, is in this category. The Berlin legal issues fall under two heads, access and succession. There is an "island" of land entirely surrounded by territory controlled by another country. A right of access to the "island" is claimed, based on agreement, practice, and "way of necessity." There is also the question of whether the right of access acquired in relation to one regime is binding on a successor regime. The Soviet Union and East Germany contend that, if they sign a separate peace treaty, the Soviet Union loses all obligations, and the East Germans acquire all rights related to West Berlin. The United States contends that this attempt to alter agreed rights would be ineffective and that, in any case, our rights in Berlin are based ultimately not on concessions by the Soviet Union or anyone else, but on right of conquest. There are also political questions about Berlin in the sense of proposals for change in legal rights, such as the question of whether a United Nations administration of access routes to the city should be set up, and whether a United Nations or "free city" regime for Berlin should be substituted for the present arrangement. If you examined the long exchanges of notes between the United States and the Soviet Union, however, you would find that they read exactly like legal briefs throughout. The Soviet Union, relying heavily upon a number of points of international law, charges that American conduct is "in flagrant contradiction to universally accepted standards of international law." President Kennedy wisely and courageously accepted this challenge in his television speech on Berlin last July, when he said, "If anybody doubts the legality of our rights in Berlin, we are willing to have it submitted to adjudication."

Another major international controversy was the British-French-Israeli invasion of Suez. It is no exaggeration to say that the world has never been closer to World War III than at the time of this action. Major powers were already engaged in naval and air hostilities. Ground troops were on the move. Bombings were taking place. The Soviet Union was threatening to use rockets and to send in "volunteers." Yet the dispute over the expropriation of the Suez Canal was originally and essentially a justiciable question of international law. Two agreements were involved—the agreement between Egypt and the Universal Suez Company, which still had a number of years to run, and the Convention of Constantinople of 1888, which laid down the rules guaranteeing freedom of passage through the canal. Why the British, with their tradition of rule of law, did not offer to take this case to court for judicial settlement remains a mystery.

There is another Suez problem that is both older and newer. This is the dispute over the actions of the United Arab Republic in prohibiting transit through the canal to ships destined for or coming from Israel. Throughout the eleven years that this controversy has been festering, it has been consistently recognized as involving a question of international law by all parties. There are complex questions of whether a state of war exists between Israel and Egypt and whether Egypt has certain belligerent rights under the Constantinople Convention. The first sentence of the note of Israel to the President of the UN Security Council in 1951, asking that the case be placed on the agenda, states: "In contravention of international law, of the Suez Canal Convention (1888), and of the Egyptian-Israel general armistice agreement, the government of Egypt continued to detain, visit, and search ships. . . ." This being so, in view of Article 36(3) of the United Nations Charter, which states that legal disputes should generally be referred by the parties to the International Court, one might have expected such a referral sometime during the eleven years. Instead, the United States in 1951 joined with the United Kingdom and France in a resolution passed by the Security Council, finding Egypt at fault and calling on her to desist from the practices complained of. The United Kingdom representative, speaking on behalf of the three co-sponsoring powers said,

> . . . these legal issues are no doubt debatable, but I do not consider that it is necessary for the Security Council to go into them. . . . The view which the Council takes on this question should depend, in our opinion, on the actual situation as it exists rather than on any legal technicality.

The result is that the controversy is as far from settlement ten years after this resolution as it was before.

Other Legal Disputes

Of all types of international controversy, none is more typically justiciable than the boundary dispute. There are standard legal ways of establishing title to territory internationally, just as there are domestically. At the same time, no category of dispute is more dangerous. There is something about the defense of the sacred soil of the motherland that will drive nations to violence out of all proportion to the amount of territory involved.

Perhaps the most serious current boundary dispute is that between China and India over India's northern border. Political negotiations have been held between Chou and Nehru and have failed completely. According to India, the Chinese have encroached on 38,300 square miles of Indian territory in all. Border stations have been attacked by the Chinese. In spite of the political talks, the Chinese continue their armed take-over. Feeling runs high in India, and a prime threat to peace continues to grow unchecked.

A number of other boundary disputes around the world, each one perfectly capable of being settled by judicial means, continue to inflame international animosities. There are disputes between Pakistan and Afghanistan, between India and Pakistan, between Cambodia and Thailand, between Austria and Italy, and between many other countries in Africa, Asia, and Latin America.

Another common type of international dispute with a large legal content is expropriation of private property and investment, illustrated in Cuba, Indonesia, and elsewhere. Cuba is also now announcing that it is going to take over the Guantánamo Bay base "by legal means."

Aerial incidents of all kinds are another highly inflammatory source of discord, as we have repeatedly seen; yet they ultimately present straightforward questions of fact and law.

Because such a high proportion of international controversies are of this legal character, it should not surprise us that attempts to solve them by political means have produced a monotonous series of failures.

Let me outline four common-sense reasons, then, why there are tremendous advantages in the proposed formula of settling legal questions by legal means and political questions by political means.

The first reason is that when legal and political issues are scrambled together, the parties cannot handle either type of controversy effectively. If they are in basic disagreement about their present rights, obviously they cannot bargain effectively about changes in rights. Suppose that A and B are playing a game of poker of that regrettable variety in which there are so many wild cards that traditional rules no longer provide a sure guide on superiority of hands. A finds himself holding five aces. B finds himself holding a royal flush. Under A's conception of poker law, five aces will beat a royal flush or anything else. A and B now begin to "negotiate" by placing their bets. Obviously, neither one is going to make the silghtest concession, since each is positive he has a winning position on his present legal rights. The betting will go on until each has staked everything he has, including the old family homestead, his mother's Bible, and as many IOUs as the table will hold. At this point it is only merciful to draw the veil and not contemplate the violence that will ensue if the hands are finally laid face up on the table. In the same way, to start diplomatic bargaining about the legal future of Berlin from a radical disagreement about the legal present of Berlin is ineffective, frustrating, and dangerous.

The second reason why this technique is necessary is that a party who is sure of the rightness of his present legal position is simply not going to give in to political attempts to deprive him of his legal rights. The conduct of Egypt in connection with the Suez access dispute is an eloquent illustration of this. Egypt has filed a declaration with the International Court, accepting its jurisdiction on questions of international law relating to access to the Canal. Why then should it bow to a political resolution of the Security Council? Suppose you are a householder who is being urged by your community to permit a public path across your back yard. A community association thinks that there may be a legal public right-of-way established by previous practice under earlier owners of the property. You make an exhaustive legal sudy and are positive there is no such legal right. You tell the community association this. They respond by passing a resolution thrusting this aside as a "legal technicality," condemning you, and demanding that you permit the public to walk across your back yard anyway. What would you do? You would tell the association to take three running hops and a jump in the community lake. This, in diplomatic language, is approximately what Nasser has told the Security Council. On the other hand, if the legal issue of present right-of-way were settled authoritatively one way or the other, the parties could then go on and work out some kind of bargain about future rights.

When Negotiation Fails

A third advantage of the new technique is that negotiations about disputes over present legal rights will be more serious and productive when conducted in the knowledge that, if the negotiations fail, there will come into play an authoritative decision on the case's merits. In domestic law, more than nine out of ten lawsuits are never tried but are compromised by negotiation and settled. But they are settled because they *have* to be settled. Neither party has open to him the option of being unreasonable indefinitely. On the international scene, there is nothing inconsistent with world rule of law in the picture of nations negotiating the best settlement they can get about a present legal controversy. The fact that a dispute about present legal rights is dealt with by negotiation and compromise does not make it any the less intrinsically a legal dispute. The crucial question is this: If negotiation fails, will the issue be settled by application of raw power (whether violence or power politics) or by impartial decision on the merits? If the former, in a world of power deadlock, you must also expect negotiating deadlock, and you certainly cannot expect disarmament. If the latter, you have the basis for a break in both arms and diplomatic stalemate.

A fourth advantage of this newer technique, and in some cases the decisive one, is that frequently the only way of getting rid of an emotion-packed dispute without either international loss of face or domestic political disaster is a legal decision on the merits. Take the case of the Nicaragua-Honduras boundary dispute. This controversy, festering ever since the two countries were founded, has led to armed violence as recently as 1957. The territory at issue has been the Mosquito Coast, which, although it is perhaps not the world's most attractive real estate, is nevertheless one-third of the size of one of the countries in its total area. Suppose that the heads of Nicaragua and Honduras had got together at a bargaining table and that finally one had said to the other: "Your arguments are irresistible. I give in; take the Mosquito Coast." Suppose the loser had then gone home and reported this political settlement to his country. The government would immediately have fallen. The heads of state know this. This is one reason that such disputes drag on for a half century or more.

What actually happened was that the two countries finally got around to taking the case to the International Court of Justice in 1958. The Court handed down a judicial decision in favor of Honduras. There was a brief flurry in the losing country for about one day, and that was the end of the matter.

In a controversy like that over Berlin, the parties desperately need some way out that is both workable and free from the threat of political disaster at home. More than once we have seen Khrushchev uncomfortably trying to disentangle himself from the effects of his latest ultimatum on Berlin. Let us concede that great decisions on matters like Berlin will ultimately be made on the grounds of political advantage. But let us also wake up to one of the most neglected truths of our times: *There are often tremendous political advantages in non-political dispute-settling.* It would be a great day for world peace if Khrushchev and other world leaders could absorb the significance of this truth, which is particularly applicable at a time of nuclear deadlock and diplomatic stalemate.

A Workable System

We now come to the question of how we go about building a system which can settle disputes in this way. There is no reason for any mystery or vagueness about this task. All we have to do is look about us and see what the building blocks of a working legal structure are at the domestic level. Then it is up to us to build these components methodically on the international level. There are four identifiable components of a working legal system:

1. A body of law that is accessible, up to date, and capable of deciding the disputes that cause tension in today's world.
2. Machinery to apply that law—machinery which is also accessible, up to date, and adapted to settling the kind of disputes today's world produces.
3. Compliance with decisions of the international tribunals applying international law once they are rendered.
4. Acceptance of the body of law, machinery, and the obligation to comply by persons affected.

According to the Statute of the International Court of Justice, there are three main sources of international law—custom, treaties, and "the general principles of law recognized by civilized nations." In each case, there is a need and an opportunity to modernize the body of international law, make it more representative of all legal systems, and adapt it to the contemporary problem of keeping peace under today's conditions. And in each case there is a crucial contribution to be made by the quiet techniques of scholarship and research.

Probably the most dramatic contribution can be made in developing the "general principles of law recognized by civilized nations" as a recognized and versatile source of law. Think of the vast treasures of legal principle to which this clause invites us. The clause tells us that if we look at the internal legal principles of the world's various systems and find a common thread of principle, then that thread becomes elevated to the status of binding international law. For an example of how this approach can enrich the content of world law and adapt it to contemporary needs, let me cite the first project we undertook at the Duke Law School's World Rule of Law Center.

Illegal Propaganda

I suppose the idea of this project may have had its origin in an interview I had with the late Premier of Iraq, Nuri As-Said. I was no sooner inside the door than Nuri barked, "I want some jamming equipment." I muttered something about Americans believing in free communication, but he snorted and repeated, "I want jamming equipment. I've got to jam Nasser. Let me tell you why. A few weeks ago Cairo broadcast a news report that I, Nuri, with my own hands, had murdered four Moslem holy men in the holy temple itself. What happened? Rioting, bloodshed, killing all over the place. I need that jamming equipment."

He never got it. But I could not help reflecting that if this is to be a world of law, is this kind of thing legal? Is not intentional use of words to cause serious harm generally illegal? Is not incitement to murder in itself an offense under the general principles of civilized nations? Is the offense any less because it is international—or because it is electronic, and therefore superficially novel?

The project has now been completed. It is an interesting example of how the substance of international law bearing on crucial issues of peace can be bolstered by research. When we started this project, I checked the ten leading treatises on international law, ranging from one to three volumes each. Of these, only two even mentioned propaganda, and the mention was confined to one brief footnote. We have produced a 400-page book of solid law on the subject. The general conclusion is that the more dangerous forms of propaganda are clearly illegal under international law. The real problem is effective remedies, and we have devised and suggested a variety of new ideas here.

Let me give just one more example of how the "general principles" approach can help lay the legal foundations for peace. Our project is called "Sovereignty Under the Law."

It is all too easy to assume that, in this age of aggressive nationalism, each sovereign of the world's hundred-plus nations is considered by his legal system to be the only source of law and therefore above the law. If this were so, the chance for acceptance of a concept of real supranational law would be slim indeed. If we look to the deepest well-springs of legal tradition in all parts of the world, however, we find almost universal agreement that the sovereign is not above the law—he is under the law. This is not surprising when it is remembered that most major legal systems have religious origins. In a Moslem country, for example, no temporal sovereign could say, "I am above the Law of Islam."

Sovereignty Under Law

The most familiar illustration is an Old Testament story which we all know, but whose legal significance we may never have appreciated, the story of King Ahab and Naboth's vineyard, in I Kings 21.

All King Ahab wanted, you will recall, was to acquire a nearby vineyard belonging to Naboth. Ahab was King in Israel. Naboth was just a plain citizen. Ahab was quite reasonable; he was even willing to pay for the vineyard. But Naboth invoked the Jewish Law of Inheritance, which was above both King and commoner. "The Lord forbid it me, that I should give the inheritance of my fathers unto thee," said Naboth. What did Ahab say? Did he say, "I'm the sovereign around here. I make the laws." He did not.

> He laid him down upon his bed, and turned away his face, and would eat no bread.

At this point entered Jezebel. In one scornful phrase Jezebel summed up the attitude of all those before and since who have thought that the sovereign was above the law: "Dost thou now govern this kingdom of Israel?"

Jezebel was what you might call an early type of legal positivist. And we all know what happened to Jezebel. The searing wrath of Jehovah, the appalling punishments visited upon one who would defy the law of Israel, leave no doubt where this particular legal tradition stands on the question of sovereignty under the law.

Our own tradition is epitomized in the

historic colloquy between James I and Lord Coke. The King accused Coke of saying that the King was under the law, "which it were treason to affirm." Coke, in the teeth of this far from subtle threat, stood his ground and said, "The King ought not to be under any man, but under God and the law."

This project, while not complete, already suggests some tentative conclusions. The interesting fact is that, while there is, of course, some contrary evidence in some times and places, both the oldest traditions and the newest legal developments are on the side of placing sovereignty under the law. The progressive abandonment of sovereign immunity is one evidence of this, as is the formation of transnational communities like the European Economic Community. Of great significance also is the appearance in the most modern constitutions, such as those of France, the Netherlands, and West Germany, of provisions expressly stating that international law in the form of treaties takes priority over national laws.

We believe that this project will show the nations of the world, including the many newer nations, that on the strength of their own deepest legal traditions, they can accept without strain or loss of national pride a legal obligation higher and broader than their own local jurisprudence.

The second major source of international law, which is also the oldest and the most inclusive, is custom and practice. Here too there is a big job for research. One job is to make more accessible the many scattered sources of customary law, such as diplomatic usage, correspondence, and other evidences of international practice, which are now hidden away in the filing cabinets of dozens of chancelleries around the world. Another function of research is to record, analyze, and "nail down" fast-moving developments that are creating customary international law in many new fields every day. For example, the dramatic enlargement of the role of United Nations peace forces in the Congo has provided answers, in the form of actual practice, to many questions of how far UN forces can go in dealing with threats to the peace. Another illustration is the beginning of customary international law on outer space. When the first sputnik went "over" territories of many nations without so much as a "by your leave," and no nation protested, a start was made towards a rule of customary international law that outer space generally is free—as distinguished from air space, which is subject to territorial sovereignty. Now all kinds of celestial garbage is whizzing about overhead, and still no nation has protested. It seems clear that Doctrine Number One of the customary law of outer space has been written: Outer space is not subject to territorial sovereignty; it is free.

The third major source of substantive law is treaties. No matter how thoroughly we exploit existing international law, there will be gaps that must be filled, particularly with regard to some of the newer areas of international relationship. The most effective way to fill them is with agreed codes, conventions, and treaties governing as many nations as possible. For example, almost the entire law of the sea was recently modernized in a series of conferences at Geneva. In 1959, a good start was made on an agreed regime for Antarctica, limiting it to peaceful uses, forbidding atomic explosions, guaranteeing free access to all installations, permitting aerial inspection, and forbidding additional territorial claims. It would be highly desirable if the same techniques that led to this agreement on Antarctica could be applied in a number of contemporary problem areas, such as the law of atomic energy, the law of international propaganda, the law of international rivers, the protection of private international investment, and the law of outer space. In each instance the groundwork must be laid by intensive research.

One thing is clear: In the task of modernizing, enriching, and universalizing the substance of international law, there is plenty of work for every college, university, association, and private scholar that wants to make a tangible contribution to peace.

Machinery of Justice

The second requisite of a world legal system is the organizational structure to administer it. The principal international court is now the International Court of Justice at The Hague, which is the judicial branch of the United Nations. This court has a magnificent setting in the Peace Palace. It has fifteen distinguished jurists, including many of the world's leading international lawyers. It has an impressive record of integrity and quality in its decisions. Indeed, it has practically everything except business. Due to the failure of member nations to use the Court, it has decided only about one and one-half cases per year since it was founded.

Obviously, something is wrong. The difficulties seem to be of two types. The first is that the real virtues of the Court are not well enough known. The second is that there is room for improvement in the structure and procedures of the overall court system, particularly if the volume of business were to increase.

As to the Court's present merits, the most important point to stress is that the record shows that these judges do indeed decide judicially, and not, as some uninformed critics have suggested, as political representatives of their countries. The World Rule of Law Center made an elaborate analysis of the votes on each individual issue involved in all the cases in the Court's history. We discover that the "national judge" voted against the position of his own country in 21.5 per cent of the cases calling for his opinion. Indeed, there is one important issue in the recent Interhandel case in which you not only find the American judge voting against the United States, but the Russian judge casting the only vote in favor of the United States!

As to possible improvements, because of the extreme difficulty of achieving actual amendments to the Court's Statute, the most promising area for research and action is finding ways to use present provisions to create a convenient, versatile, and varied system of tribunals to meet all possible needs. The Court's Statute provides that it can divide itself into small chambers, sit in any part of the world, and appoint subsidiary bodies to make investigations and to give opinions. If these provisions were exploited to the utmost, it is quite conceivable that there could be created a system of tribunals around the world, holding court in convenient places, assigning judges familiar with particular legal traditions to particular areas, entrusting to competent specialists all kinds of technical and specialized questions, and generally making the court system as accessible and flexible as the court systems of a modern country. The trouble now is that, with only one international court in the world, it is as if we had to go to the Supreme Court in Washington in our domestic controversies for every negligence suit, will contest, and battered fender.

One bright spot in this picture is the success of the Court of Justice created to dispose of disputes arising within the European community. Perhaps an extension of this pattern could be considered with special courts assigned to particular tasks or areas of subject matter. In addition, since there are many disputes that are in whole or part non-legal and political, there ought to be provided regular mediation, arbitration, and conciliation bodies, so that there will be a tribunal available for every conceivable kind of dispute.

To Win Compliance

The third ingredient of world law is compliance with the decisions of international tribunals once they are handed down. Curiously enough, although this is the problem that most people seem to regard as the chief stumbling block, in actual fact it may prove to be the least worrisome of all. In the entire history of the International Court of Justice and its predecessor, the permanent Court of International Justice, there is only one instance of disobedience to a decision. In the hundreds of thousands of other decisions of international tribunals and commissions, the number of cases in which non-compliance has even been suggested is almost insignificant. This is a fact of immense significance as we set up our scale of priorities for action. It seems to indicate that if we can bring nations to the point where the body of law and the machinery of law are sufficiently satisfactory to induce them to submit a case in the first place, by the time the case is decided, flouting the judgment would be virtually unthinkable.

It will not do to brush this aside by saying that these cases dealt only with minor matters where the national interest was not deeply committed. The Nicaragua-Honduras boundary dispute has already been mentioned, involving territory equal to one-third the territory of one of the parties. In the famous litigation between Denmark and Norway on the ownership of East Greenland, we have an even more striking example. As every Norwegian knows, even to the third generation, Greenland was discovered by Leif the Lucky, who then went on and discovered America as an afterthought. You can well imagine, then, that it was not easy for the Norwegians to swallow their Viking pride and accept the decision of the permanent Court of International Justice awarding East Greenland to Denmark. To see how far at least some countries have progressed, it is interesting to contrast this with the speech of Fortinbras in the closing scene of *Hamlet*, when he speaks of how nations will fight over a patch of land not big enough to bury the dead in. What countries was he mainly talking about? Norway and Denmark.

So far as the United States is concerned, was there ever a more emotional presidential campaign than the one whose slogan was "54-40 or fight?" Yet the dispute was settled peacefully by arbitration. We did not get 54-40. We got 49. And we did not fight.

Of course, there is much important research that can be done here on the possibilities of enlisting diplomatic and economic pressures, world public opinion, strengthened enforcement powers of international organizations, and strengthened internal enforcement of international decrees. In addition, the process of building up an effective international armed force should be hastened. There is always danger of getting the order of priorities reversed, however. Many people seem to think that if we could only create an overwhelmingly powerful armed force under international administration, our problems of world order and peace would be solved. But this alone would solve nothing. Before you can use an international armed force, you have to have a system of deciding who is right and who is wrong, who shall feel the lash of international sanctions upon his back, and who shall sit by, wearing the smile of vindicated righteousness. Of course, an international force could always perform the function of checking overt physical aggressions by force of arms, but most international conflicts nowadays do not take this form. Most of them involve complex disputes over national rights which can only be disentangled and settled under a body of substantive law by an authoritative tribunal.

The correct order of priorities, then, gives first place to getting the substance and machinery of world law improved to the point where all the nations of the world will accept them. This brings us to our final ingredient of a legal system, acceptance.

Nostra Culpa

At once we encounter the unhappy fact that less than half the members of the UN have accepted the obligatory jurisdiction of the World Court, and some have interposed reservations so severe as to render their acceptance largely illusory. The problem of our own "self-judging" reservation—the Connally Amendment—under which we reserve the right unilaterally to declare a controversy domestic and hence outside the Court's jurisdiction, is by now becoming quite well known. Its repeal has been called for repeatedly by President Eisenhower, President Kennedy, and other top members of the Executive Branch, by the American Bar Association, and by many state and local bar associations.

Of the many arguments for repeal of this clause, there is one, the matter of reciprocity, that has never been sufficiently stressed and which is important because it should convince even those who are impatient with idealistic arguments based on world leadership toward peace, and who want to get down to cold-blooded national self-interest. Such people assume that the function of the self-judging clause is to throw up a wall against possible loss to ourselves as defendants. In fact, the principal effect is to throw up a wall against all possible remedies for ourselves as plaintiffs. France learned this lesson the hard way in the Norwegian Loans Case. Norway had floated loans payable in gold in France, then later went off the gold standard. France, on behalf of the investors, brought a case against Norway, insisting on payment in gold. France had a self-judging clause like ours. Norway did not. The court held that, as a matter of reciprocity, Norway could exercise France's claimed reservation and call the transaction domestic. Result: financial loss in cold cash to citizens of France. Cause: a supposedly protective clause interposed by France. Sequel: France repealed her self-judging clause. Will we similarly have to subject innocent Americans to severe financial loss before we learn our lesson?

One is reminded of Robert Frost's well-known lines,

> Before I built a wall I'd ask to know
> What I was walling in or walling out.

We are not merely walling the other fellow out of court. We are walling ourselves out whenever we have a valid claim.

After all, we are the ones who need the protection of law more than any other country. We are the ones with $30 billion privately invested within other countries' boundaries with the ever-possible danger of damage, confiscation, or discrimination. We are the ones with 730,000 tourists abroad per year and 500,000 citizens resident abroad, always in danger of personal injury and property damage. We are the ones with foreign bases, communications installations, transportation facilities, and economic and technical aid projects. The chances of our needing, as plaintiffs, the help of the Court are many times as great as the chances of our appearing as defendant.

The Connally Amendment not only makes it difficult for the United States to assume world leadership in the direction of peace through law, it actually makes us look downright foolish. Suppose I were arrested for driving on the wrong side of the street and then turned up in court and said, "I was not on a public street. I was in my own driveway. I have just decided this fact myself, and therefore this court has no jurisdiction. Good day." With such a plea I would not end up in jail; I would end up in the booby hatch. And yet this it what we presume to say to the other nations of the world on the infinitely more serious business of international relations.

Repeal of the Connally Amendment will not by any means bring world legal order of itself, but it will remove a conspicuous obstacle and will have considerable significance in determining whether we are ready to move ahead on the many other concrete jobs that have to be done if we are to build a world of law.

Acceptance of a world legal system may come about in various other ways in addition to general acceptance of the World Court's jurisdiction. One of the most practical ways is the insertion in all treaties of the so-called "compromissory" clause—that is, a clause in which the parties agree that disputes about the interpretation and execution of the treaty shall be referred to the World Court or some other designated tribunal for authoritative settlement. We have such clauses now in all our modern commercial treaties, and the clause is familiar in hundreds of other instruments.

And the Communists?

When people ask, "What about the communist countries?" I think the best answer is that, while the probability of the Soviet Union's accepting the general jurisdiction of the International Court is remote, it is conceivable that the Soviet Union might be brought within an orbit of world law gradually through the use of compromissory clauses in treaties. A fact that has been almost entirely overlooked is that the Soviet Union already has agreed to this type of clause in five important multilateral conventions: the Constitution of UNESCO, the Statute of the World Health Organization, the Convention of the World Meteorological Organization, the Supplementary Convention on the Abolition of Slavery, and the Statute of the Atomic Energy Agency.

The Soviet Union does not like this kind of clause, but this is not entirely because of the suspicion that there can be no impartiality between communist and noncommunist nations. In fact, impartial third-party judgment as a way of settling disputes under treaties is almost unknown even between communist countries themselves. On the other hand, the evidence of these five treaties seems to indicate that if the Soviet Union wants a treaty badly enough and knows it cannot have it without the inclusion of this clause, it may be willing to go along with such a dispute-settling procedure. A major breakthrough in this direction could take place if such a clause were included in any disarmament treaty that might be signed. There is considerable evidence that, for economic reasons, the Soviet Union genuinely needs disarmament if it is to make good on its promises of sharply increased living standards. It is currently devoting roughly twice as much of its gross national product to arms and arms-supporting industry as is the United States.

Any disarmament treaty, of course, is certain to be highly complex and filled with terms that could immediately lead to differences of interpretation. We should have learned our lesson by now from such treaties as Potsdam and Yalta and realize that a large part of our quarreling with Russia can be traced to disputes about interpretation of past treaties. It is of the highest importance that in any disarmament treaty, we absolutely insist on an impartial dispute-settling mechanism. Otherwise, the treaty will break down in a very short time in a welter of recriminations and claims of cheating. If we were successful in getting such a clause into a major treaty, and if it worked out successfully, we might then look for a gradual broadening of the range of relationships that are brought within this kind of legal dispute-settling technique, and we would be well launched in the direction of including communist, as well as noncommunist, states within the orbit of world law.

All this may seem to be a task of almost insuperable difficulty. But difficult or not, we must try. Rousseau, in his *Emile*, provides a relevant text:

> The best way to teach Emile not to lean out of the window is to let him fall out. Unfortunately, the defect of this system is that the pupil may not survive to profit by his experience.

The world has been learning about international relations for centuries by a process of periodically falling out the window. The injuries have been severe but never quite fatal. But we all know that one more fall will be our last. We must profit by our experience, for we will not be given another chance.

There is one factor that was never present before. The shadow of the H-bomb is over us all. Perhaps the mutual realization of our capacity for mutual annihilation will telescope history and enable us to achieve a degree of progress in decades that in other times might have taken centuries.

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Beautiful, useless, immortal

"What do you professors in schools of music think you are doing for American education these days?" people ask. And almost invariably they add, "After all, this *is* an age of science and technology." The inference is obvious.

I doubt whether any music teacher has escaped these remarks. I doubt, moreover, whether any thinking music teacher has dismissed them lightly. At the risk of repeating ideas already ably put forth by other writers, I should like to express some of my views as a member of the faculty of one of the country's largest schools of music in which there is acute awareness of the problems confronting the creative artist.

Let me state at the outset that I am not in the least concerned about the size of the present or future enrollment in schools of music. The world has always—hopefully for better and not for worse—had its musicians. There is little reason to fear that things will change to such a degree that we shall be obliged to live in a world without music, and it goes without saying that musicians must be trained. What does greatly concern me, however, is how our students reflect the conditions of this generation and how they are going to live as active citizens in contemporary society. The day is past when a musician or any other artist can afford the romantic nineteenth-century luxury of being merely a creator, making music for music's sake, and caring little what makes the world go around. In this realistic and utilitarian age, what use is a musician?

The Old Was Modern Once

In 1946, writing his recollections of long days spent in the library of the University of Rochester, Professor Emeritus John Rothwell Slater, who recently celebrated his ninetieth birthday, remarked fondly about the collection of music materials:

> Occupying several alcoves in the southwestern corner of Sibley Hall, those costly scores of symphonies, chamber music, operas, musical biographies, and technical treatises made for eccentric dilettantes an oasis in a desert of science. The writer still recalls how forty years ago, sitting in that quiet corner overlooking the elms, he used to read the music of Bach, Mozart, Beethoven, and Wagner with the secret delight of cerebral audition. He blessed Mr. Sibley (the donor) for those blissful hours, stolen from correcting freshman themes to which he reluctantly returned. President Rhees, also a musical amateur, never blamed anybody for wasting time on music, or on any other beautiful, useless, and immortal thing (*3*).

Do we now experience this happy reaction to music, either physically or cerebrally heard? "Eccentric dilettantes," "an oasis in a desert of science," and "wasting time on music" all have a comfortably familiar and almost endearing ring to the ears of a musician. Now what about "beautiful, useless, and immortal"?

Many people find little beauty in contemporary music. They may easily agree that the music of Bach is beautiful because it reveals a deep religious feeling, or that the music of Mozart is beautiful because it mirrors the elegant society of the late eighteenth century, or that the music of Beethoven is beautiful because it is the grand expression of a freedom-loving man, or that the music of Wagner is beautiful because it is gorgeously rich. But do they remember that Bach was considered a bit fuddy-duddy and old fashioned by his own sons, that Mozart was a poor and jobless creature who never held a permanent post, that Beethoven was thought to be not a little queer and untidy about his music because he dared to split the seams of the good old traditional sonata form, or that Wagner was maligned by the singers he had hired because he wrote melodies impossible to sing? It appears that these men, whom we now consider among the greatest master-musicians of our history, were not necessarily recognized in their own day as creators of beauty.

I must quickly interject the admission here that although I am constantly in contact with contemporary music, I sometimes find it a bit difficult to enjoy. It does not always act as a soothing balm on my sore spirits when I have battled rush-hour traffic. Its methods are perhaps not classical or romantic or impressionistic or anything else that I can grasp with little mental effort. Sometimes I do not even pretend to understand the composer. But contemporary music arouses and sustains my interest. I do not wish to dismiss it as lacking in beauty, or, worse, as being ugly and distorted, just because it does not give me the same "secret delight" which I might derive from the works of a Mozart or of a Beethoven. I choose to remain curious about it and to give its innovations at least a fighting chance. After our ideas of beauty have been modified by our times, who knows what we shall be calling "beautiful" in years to come?

Searching for Novelty

In this age of computers and tape-recorders and all manner of electronic wonders too numerous to mention, it is no accident that contemporary writers employ sounds which were quite out of the question in times past. If composers are now writing music by means of machines, why should they be censured for being without soul any more than they should be criticized for travelling by jet instead of by horse and buggy? In this generation of experiment and change, it is likewise no mere happenstance that composers have sought new methods of organizing or disorganizing sound. Furthermore, musicians as a rule are acutely conscious of their own efforts to keep in step with contemporary trends. Like creators in every other field, composers at the turn of the century, dissatisfied with the conventional resources which had already been sufficiently worked over, sought new frontiers. By experimenting with techniques and devices which have been tagged with such terms as atonality, twelve-tone system, serial composition, and so on, some essayed a new order. Others became musical iconoclasts, destroying time-honored concepts without necessarily being able to replace them. As a result, we have at present a peculiar coexistence of music deliberately constructed by preconceived and rigid patterns outside traditional tonality and music which appears to have been haphazardly thrown together—both of which the average listener finds difficult to comprehend and reconcile. Simultaneously, a more adequate and involved vocabulary has been developed to describe the various processes, and new methods of analysis have been devised.

That this condition exists is perceived by many composers and teachers of our young musicians. Witness, as a case in point, the article entitled "Crisis!" by Wayne Barlow, an American composer and university professor (*1*). Following upon the heels of romanticism and its consequent defiance of tradition, he avers, certain composers have changed the very nature of music. Music has developed a split personality: total organization of elements on the one side, and random, haphazard sounds on the other. Moreover, music has turned in on itself. He continues,

> In all this frenzy of activity, one is struck by (music's) complete introversion and by the realization that much of it is taking place in utter disregard of any potential listener. It is this total withdrawal of music into itself and its scorn of the ordinary listener that constitute the real danger for the future. For the ordinary listener has no part in this kind of music; it is written—or constructed—or organized—or accidentally put together—for an audience consisting of the elected few who like to write—or construct—or organize—or accidentally put together—other music of the same kind, along with those who perennially hope to be in on a *scandale* at a performance of avant-garde music.

Barlow, like most of the rest of us, looks back with some longing to such periods of relative stability in the history of music as the Baroque and the Classical, during which composers and listeners understood a common musical language employed to create useful music. A musician in the good old days was a servant of society in that he created a product for immediate and purposeful consumption. He served the chapels, the churches, the princely courts, and even the groups loitering around the town tavern. Obviously, we cannot turn back the clock. But are musicians never to serve again? Barlow thinks they might. He cites the commissioning by the Ford Foundation of a dozen young composers each year to write music for school use. These writers must discipline themselves to meet the requirements of performance by young people. Simultaneously the children in our schools are being educated to the actual process of reproducing as well as hearing this modern music. He cites also the commissioning by the Ford Foundation of established composers to write works for presentation by our symphony orchestras, to secure new music a place in the active concert repertoire. These are surely signs of reestablishment of communication, at least in a few quarters.

To Cultivate an Audience

The public vociferously protests the mechanization of music. Serial organization of music is bad enough, people say, without using tape recorders and computers and electronic instruments. Actually, these are three quite different methods in spite of their generally being condemned together as musical engineering. In examining one of them we find the following: In tape-recorder music, a composer first records some chosen succession of tone on a basic tape, which is then manipulated in literally dozens of ways to produce a large stockpile of sounds. Most of these sounds are outside the realm of possibility of the human voice or any other conventional instrument. Compositions may be put together by the skillful splicing, arranging, and superimposing of these sounds, carefully selected by the "writer," who does not really have to write because once the composition is assembled and the whole thing taped, the music sounds exactly the way it was planned to sound. There is no margin for error or alteration. On the surface, it may seem odd that such methods can have a part in helping man to express himself. Some of the music may indeed sound unearthly and weird. Some may become overorganized. But we must not be misled into condemning the entire corpus of such music as useless, devoid of humanity, or lacking in aesthetic value, for out of it has come some marvellous (in the true sense of this term) phenomena. With growing acquaintance with these new tonal sensations and increasing association with them, there is every possibility that they may evoke reactions just as valid as those to the music of Bach and Beethoven. Moreover, those experimenters who have done the most in this medium have been completely honest in differentiating between experiments and compositions.

What of the performer? Professors of music who are also performing artists have not been unaware of their responsibilities. The pianist, composer, and Ithaca professor, John Cage, for example, has revitalized the role of the performer, for in his compositions the performer, by improvisation, assists in the creative process. Because the element of chance (or originality) assumes great importance, the pieces will probably never sound the same twice. Though the styles may differ radically, this spirit of improvisation is the same as that which governed music-making in the Baroque era. Artist-teachers like violinist Roman Totenberg (*4*) of Peabody Conservatory have gone on record as believing that the lack of communication between a contemporary composer and his audience may be the fault of the performer. Concert virtuosi owe it to both their public and their colleagues to expend sufficient thought, time, and energy in mastering new works if for no other reason than to transmit the music to the potential listener. While this obligation existed in full measure in the past, there seems to be an even greater urgency at present.

Immaterial Utility

In all of this, which sounds like a defense of modern music, one might reiterate, "Of what use is music?" Music is and always has been useful *per se*, though perhaps not in any material sense. Even the most visionary and starry eyed of musicians cannot expect a skyscraper to be erected by the power of music or wars to be won by it. But knowing the wordless persuasion of music, they can rightfully expect the men who build the skyscrapers and those who occupy them to benefit from the effects of the music which they might hear in church, the music to which they might dance, or the snatches of tunes they might hum or whistle. We all have a free choice in the sort of music to which we may listen, regardless of the quantity and quality of experimentation in progress. Enjoyment, solace, spiritual refreshment, and aesthetic pleasure should be the result of our choice.

The recent successful tour of both Eastern and Western Europe by the Eastman School of Music Philharmonia has demonstrated beyond a shadow of a doubt that music transcends racial, lingual, and ideological boundaries. It can create understanding where words fail. As for wars, therefore, perhaps we may hope that music will assist in making some of them unnecessary. In a word, sometimes it is the spirit rather than the flesh which triumphs, and what is completely useless as a concrete commodity may be of infinite use as an intangible one.

It has been encouraging to observe the growing interest on the part of businessmen, scientists, government officials, and even large corporations in all of the fine arts and their benefits. It may well be that this awareness will cause greater financial assistance from both private and public sources to be directed to the dissemination of the arts. Just as science has been spurred on by support within the past two decades, so may the various branches of creativity.

As for the obligations of a professor of music in our collegiate institutions, it is imperative that he understand the conditions of contemporary music. It is not necessarily his primary concern to make virtuosi of his pupils. Our young musicians, like young people in other fields today, are typically facile in overcoming physical difficulties imposed by their instruments. To perform brilliantly is not the greatest problem for them. Rather, the duty of a teacher is the more subtle one of making thinking and feeling people of his students, which is a larger order. The older conservatories for concert artists in the nineteenth century had an easier time of it than our twentieth-century university schools of music.

Educated Creators

Today, in order to make honest musicians, we must teach all the skills of music in addition to psychology, philosophy, history, literature, aesthetics, languages, science, and any other subject that a person needs to know as an active citizen of the world. In the field of music alone we expect our students to *know about* music as well as to *know how* to create it. For this reason we emphasize more and more the necessity for research in the history of music and investigation into the literature of the student's performing medium as a necessary part of his training. Theoretical and analytical aspects of music are taught together with the practical. There naturally arises the problem of packing the subject matter into the few years allotted for collegiate training, a problem which constantly plagues committees on curriculum.

If there is any doubt of the possibility of creating true musicianship in our present century, I should like to point to the Eastman School of Music (which I use as an example because it is the institution I know best). Its director, Howard Hanson, is successfully and simultaneously a composer, a performer, a conductor, an educator, an administrator, an author, a theorist devising a new, dynamic method of compositional analysis (*2*), an historian, a philosopher, and—above all—a human being actively engaged in statesmanship. He promotes the cause of contemporary music while at the same time maintaining his own individuality and his own creative style. Although it may be difficult to emulate him, he offers living proof that a twentieth-century musician can be an educated, thinking person, acting as a positive force in the life of a modern nation.

Not one of us denies the tremendous challenge of education. We who teach in schools of music differ from other educators only in that we deal with sound as a science and an art. We feel the necessity of educating young people to the acceptance of progress and change and to the understanding that all results of change are not necessarily for the best. To exercise some measure of judgment rather than to conform blindly to musical fads of the moment is an important outcome of maturity. Although we may not produce the tangible, dramatic, and perhaps earth-shaking results with which scientific study is pregnant, we hope to benefit mankind by offering the best spiritual solace and artistic enjoyment that can be created by sound. Through our efforts, we hope to strengthen communication between the musician and the layman. We hold to the tenet that music, as music, is a valuable expression of humanity. As for immortality, it will take care of itself.

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Issues & Items

Unbrotherly Brotherhoods? For a long time, the role of fraternities and sororities on American college campuses has been a matter of dispute and confusion. Beginning as devices for like-minded students to pool their resources for solving the problem of how to shelter and feed themselves cheaply and congenially, fraternities have become, for the most part, exclusive clubs, operating at best on the periphery of academic authority and primarily responsive to national organizations independent of the colleges and universities at which chapters are located. Two distinguished institutions, the University of Wisconsin and Williams College, have recently taken clear action with respect to Greek-letter societies.

At Wisconsin, the Human Rights Committee has recommended a resolution to the faculty that embodies these principles:

> For each organization on campus, the autonomy shall rest entirely with those members who are currently enrolled students of the University. The right of the local student membership to nominate and select new members shall not be restricted in any way by constitutional, ritualistic, or other restrictions, written or unwritten, imposed from outside. . . .
>
> Such rights shall not be restricted or modified by national officers, alumni, advisers, or others from off campus through exclusive privileges of recommendation, approval privileges, or veto power.
>
> The principle of local autonomy in membership nomination and selection is considered necessary in order to assure local members of student groups complete freedom to judge each student on the basis of his or her individual merit and *regardless of his or her race, color, religion, or national origin* (italics added).

On the basis of such principles, it has been recommended that the Madison chapter of Delta Gamma sorority cease its activities at Wisconsin by 30 June, 1963. Through a paid advertisement in the town and student newspapers, the sorority has responded by attacking the Human Rights Committee. Mississippi has no monopoly on bigotry!

At Williams, the trustees have simply announced plans that will, in effect, eliminate fraternities by making the provision of room, board, and social accommodations entirely a college function. The plans were formulated after a study in which it was found that the societies were playing a "disproportionate role" in undergraduate life. The committee carrying out the investigation was composed of nine alumni and two students.

Despite efforts at the Williamstown campus to avoid the "rigors and humiliations" of the fraternity system, the committee argued that too much

> otherwise useful energy has already been wasted in wrestling with the fraternity problem and that the time has come to put an end to the pressure build-ups that for so long and to such a large extent have monopolized the attention of many alumni and most of the undergraduates.

While it is suggested that fraternities may continue to function at Williams, it is reasonably clear that they will be unable to support themselves when deprived of income from housing and feeding members. In so far as is feasible, the college will take over the facilities of existing Greek houses, operating them in order to correct positively an influence found by the investigating committee to be "so all-encompassing that (it) tends to interfere with the broader, more inclusive ends of the college itself."

Huzzahs to Wisconsin and Williams!

★ ★ ★

The Gifted as Gifts. There is a delectable brief passage in *The Child-Buyer* in which John Hersey perceptively lampoons the practice of lumping the gifted and the defective under the same heading of "exceptional" children. Now Mrs. Ann F. Isaacs, executive officer of the National Association for Gifted Children and editor of its *Quarterly*, reminds us wryly that this lingustic habit of ours is an uneasy reminder of our embarrassment in the face of our brightest and most distinctively creative youngsters.

When, a few years ago, the NAGC first surveyed universities and colleges with respect to the training of teachers to work with gifted moppets, it found only some six institutions with identifiable programs. That number has now, happily, increased to more than 50; but this figure is still startlingly slender when it is looked upon as a proportion of our more than 2,000 institutions of higher education or as a response to a clear social need for the maximum cultivation of our best talent.

As Mrs. Isaacs puts the case, the problem is far less technical than very broadly attitudinal:

> The answer to what to do for the gifted is not nearly so much a matter of our limited knowledge as of our widespread realization that we must permit the gifted child to grow and develop according to his own special attributes, not according to superimposed rules devised for the average. Picture a six-year-old taking a reading test while he simultaneously analyzes the length of the mark made as he underlines words and the relationship of the color tone of his crayon to that of others of the same color family. In one's head it is hard not to hear a myriad of teachers' voices saying, "Pay attention, Tommy."

Learning more about the gifted and the instructional methods most fruitful for them is an obvious requirement for modern educators. School libraries should have the *Quarterly* on their shelves, and the publications of the NAGC (409 Clinton Springs Avenue, Cincinnati 17, Ohio) should be widely available. We run the risk, in our misunderstanding of the processes of democracy and the needs of the classroom group, of turning exceptional gifts into objects of exceptional neglect if not handicaps.

★ ★ ★

Monthly Miscellany. President Tom L. Popejoy, president of the University of New Mexico, recently told the state convention of the American Legion that he was "not in business to make ideas safe for students" and that "a free university can afford heresy." . . . According to Dr. J. P. Guilford of the University of Southern California, man may have as many as 120 or more relatively independent intellectual aptitudes. They include special abilities to discover information, to memorize it, to make decisions, to recall images, to perceive relationships among things, patterns, and systems, and many others. The structure of these different competencies, many of which are as yet undiscovered, enable a man to be original and to change the direction of his thinking in novel ways. . . . Freshman enrollment in American engineering schools is more than 20,000 below that of the peak year of 1957, when over 78,000 registered. . . . Slightly less than half the members of school boards over the US are college graduates, reports the US Office of Education. Only 10 per cent are women, and businessmen and professional and technical workers account for nearly two-thirds of the occupations represented. . . . Be careful of Christmas gift books this year! You may be able neither to afford them nor to carry them. According to *Publishers' Weekly*, two are being released at a price of $200, and the range from $30 to $50 is described as "routine." One of the $200 items measures 23 x 20 inches, and a volume of *Great Drawings of All Time*, to retail at $160, will weigh 36 pounds. . . .

* * *

Glass and Craftsmanship. Under the impetus of technological developments, we are obviously educating people all over the world to live in a technical society. Yet one of the strange things about this motif in modern culture is that it puts less and less of a premium on the artisan, the individual crafstman proudly plying his highly skilled trade. On the one hand, we have reports of such things as the occasional failure of expensive space rockets not because of faulty engineering or inadequate science, but because of careless or bumbling workmanship. On the other, we hear of persons from emergent nations who, after being educated abroad, are no longer willing to work at the crafts or even to encourage the skills that their countries desperately need.

It is against this background that we were delighted to learn that one of the two programs in glass-blowing technology in the world is flourishing in New Jersey. (The other is in Bavaria, behind the Iron Curtain of East Germany.) At the Salem County Vocational-Technical Institute, a two year course is offered, designed to train students in a craft that has traditionally been a family affair. Located in one of the centers of the glass industry and in a region where great research laboratories operate, Salem Tech is training students so that they can not only master technical requirements; they also, in the words of the school's director, Mr. Herbert Donaghay, can "sit down next to a scientist, understand what he is ordering, and make an instrument to his exact specifications." For this reason, only high school graduates are accepted, and the curriculum includes industrial chemistry, mensurational mathematics, blueprint reading and drawing, physics, machine shop, and technical English.

Since the establishment of the enterprise in 1959, 27 students have been enrolled with a new crop of 18 added this semester. Applications have come from England and Germany as well as most Eastern states, and the largest problem encountered so far is the pirating by needful industries of the students before they finish their course.

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The mission and challenge of West African universities

Universities, like motor cars, are among the exports from the West to tropical Africa. Just as Fiat and Renault cars are common in Dakar, and Morris and Austin cars are common in Nigeria, so Dakar has a French pattern of university and Nigeria a British pattern. And just as some Africans believe that American cars are more suitable than European cars for the long distances and the rough roads, so some Africans believe that American patterns of higher education may be more suitable than European patterns; it is for this reason that the new University in Eastern Nigeria has links with Michigan State University.

In a sense, both the universities and the motor cars in West Africa do for West African people what universities and cars in Europe do for European people. But there is much more to it than that. When you decide that your economy can afford to import motor cars, it is legitimate to consider who will own the cars and what the road system is like and where the cars will travel. Similar questions have to be considered when you import a university.

A university is an institution for promoting and transmitting Western civilization. Its curriculum comprises a corpus of knowledge and techniques which have international currency. If West Africa wants to stay on the gold standard of learning, there can be no concessions over level of attainment among students or level of scholarship among staff. Subjects like physics and mathematics cannot be made any easier, or any different, just because they are being studied by a Hamitic race in latitude 10 instead of a Nordic race in latitude 50.

This is a view which all the intellectuals of West Africa, I believe, accept. And whatever else is put on the debit side of the balance sheet for British and French policy in West Africa, there will always remain on the credit side the fact that both Britain and France attached a guarantee of standards when they brought universities here. They did not export a cheap version. A graduate of Ghana or Ibadan is known to the world to have the standards of a London graduate, and a graduate of Dakar the standards of a graduate from Paris or Bordeaux.

This is an immeasurably valuable asset to West Africa. Any government or other authority in control of higher education which sold any of this asset in order to buy quick results or to curry popular favor, or even to meet economic needs, would be sabotaging the whole intellectual future of West Africa. Once a country is off the gold standard of learning, it is a supremely difficult task to get on to it again.

No African Universities

But to preserve standards it is not necessary to petrify them: There is plenty of opportunity for change, adaptation, and acclimatization in an exported university. And this brings me to my main point, which I put with brutal frankness.

There are no West African universities—yet. There are British and French universities in West Africa, but they are importations; they are no more indigenous than the motor cars. They have minor modifications, of course, just as motor cars have sunhoods, and chocolates (I am told) a higher melting point. But the West African university is still to be born. A hundred years ago, a similar assertion could have been made about universities in America. Indeed, it was made. This is what C. W. Eliot, who became President of Harvard, wrote nearly a century ago:

> . . . a university, in any worthy sense of the term, must grow from seed. It cannot be transplanted from England or Germany in full leaf and bearing. It cannot be run up, like a cotton mill, in six months, to meet a quick demand . . . When the American university appears, it will not be a copy of foreign institutions . . . but the slow and natural outgrowth of American social and political habits.

The West African university, when it appears, will be a "slow and natural outgrowth" too. Its roots will be in the universities of Europe, acknowledged everywhere in the world as part of the international family of universities, but it will have its own West African identity. In brief, West African universities, like British or French or American or Russian universities, serve their purpose only if they fulfill a dual loyalty—a loyalty to their own society and a loyalty to world standards of higher education.

If the first loyalty fails, the university is cut off from the people and serves only an esoteric elite. If the second loyalty fails, the consequences are even worse: The people, including the educated elite, are condemned to limp behind the rest of the civilized world. At present, the second loyalty is secure. The first has still to grow.

How will the universities of West Africa become West African universities? Naturally, no one can answer this question, but a good deal is known about what a biologist may be excused for calling the "ecology" of universities—the pressures which act on them when they are transplanted from one cultural climate to another, the ways they adapt themselves, the dangers of too fast or too sweeping adaptation.

Stormy Climate of Growth

First of all, we have to recall the cultural climate from which the models for the universities and university colleges of West Africa have come. In the case of Ghana, Nigeria, and Sierra Leone, it is the cultural climate to be found in such British industrial cities as Hull, Nottingham, Southampton, and Leicester in the 1950s. Where, we must ask, do the differences lie between the circumstances of these communities and the circumstances of West African communities?

Universities in West Africa are inevitably in the front line of nationalism, for nationalism is led by African intellectuals, and it is universities which produce them. The front line is a dangerous place, and this inevitable exposure to the crossfire of politics could easily damage the integrity of higher education. African nations are utterly dependent on their universities to provide statesmen and administrators, together with experts of all kinds, so it is not surprising that those who are building up African nations are tempted to bring pressure to bear on universities to provide for the nation's urgent needs.

But there is something else which African nations must seek from their universities—disinterested opinion on important economic, legal, and scientific issues. And opinion cannot be disinterested unless it is insulated from pressures. Universities in Africa will for a generation be called upon to fulfill both these functions.

African people must learn to think in the context of the world, not of the chiefdom or the village or the tribe. Tribal loyalties have to be fused into national loyalties, national loyalties into pan-African loyalties. The university is a most powerful instrument for achieving this fusion. The horizon for West African universities must be West Africa—all of it between the deserts and the sea—as a partner in world affairs.

I wish universities in West Africa did not have this strenuous and demanding role to play. I wish they could be left alone to carry on quietly with the simple function of being centers of learning, as Timbuctoo was, and Fez. But these are idle wishes. For a generation at least, universities in West Africa will have to adapt themselves to this rugged destiny; and somehow they must do it while all the time remaining disengaged from politics.

My second topic in university ecology is related to the first. It concerns university government and administration. The constitutions given to the university colleges at Ibadan and Legon Hill closely resemble those of British civic universities. They are autonomous corporations, not government departments (as they are in most universities on the continent of Europe). Sovereignty resides in a lay governing body, which delegates most academic business to a senate composed predominantly of professors (except in Ghana, where it is composed of all senior teachers).

This pattern was set in the 1850s. Its purpose was twofold—on the one hand, to preserve the principle that higher education should be a matter for private enterprise; and on the other hand, to ensure, through the predominantly lay council, that the needs of the community could be brought powerfully to the university's attention.

A century's experience shows that neither of these purposes has been served by the constitutions given to civic universities. A lay governing body cannot pretend to be autonomous when it relies on the goverment for 80 per cent of its income. And a lay governing body cannot run a university as a board of directors runs a company, issuing directives of policy, because academic policy is far too difficult for lay councils to understand.

What has happened in Britain is that the constitutions have remained basically unchanged although they no longer fulfill the functions originally designed for them. Protection from state control is provided by the University Grants Committee, which administers the government grant and yet is independent of government; and initiative for the university's academic affairs flows from below upwards as recommendations to be adopted, not downwards as directives to be obeyed. So you have in Britain the paradoxical position that it would be very rare for a governing body to take the initiative in governing. The constitutions of our civic universities work because nobody interprets them literally.

Creative Adaptation

All this is relevant because this same pattern of constitutions has been exported to tropical Africa. On the one hand, it is unreasonable to assure West African leaders that the constitution does not always mean what it says. On the other hand, if the constitution is interpreted literally throughout, academic initiative will be stifled, the staff will fall into despair, and the intellectual health of the university will fail. For instance, the Ordinance of University College, Ibadan (Part III, paragraph four), states that,

> Before determining any question which directly affects the educational policy of the College, the Council shall take into consideration any recommendation or report made by the Senate.

Read literally, this means that if the Council is unimpressed by any recommendation from the Senate, it can just go ahead to determine some educational question in the face of Senate advice to the contrary. In the early days of British civic universities, this used to happen. It has happened once or twice in Australia. But after a century of the working of universities, there would be chaos if such a thing happened now in Britain. The question would be referred back, as many times as necessary, to the Senate. We know that this is the only way the constitution can be worked.

This leads me to ask a question. Is it sensible for West African universities to have ambiguous British constitutions, disengaged from the customary interpretations the British put on them? I think it is not sensible, and that the whole pattern of government and administration of universities needs adaptation to West African conditions.

This is not the place to propose the sort of adaptations which are desirable. For my own part, I would like to see the ingredients of academic freedom under West African conditions carefully redefined and a university constitution then drawn up which safeguards these freedoms. This new constitution should place certain responsibilities squarely upon the academic staff, but it should place squarely upon the laymen involved in university government certain other responsibilities, so that they do not feel they are mere rubber stamps for a professorial oligarchy.

Indigenous Curricula

The third topic in university ecology is curriculum. Here are the most obvious and most urgent needs for adaptation. It could be argued that, in the first stages of African higher education, African students had to follow exactly the curriculum of British or French students, just to demonstrate to themselves that they could compete successfully in the world academic market. But these first stages are over now, and it is clearly one of the important functions of West African universities to put African studies at the core of all university curricula, including those in science and technology. Otherwise universities will not take root in West Africa.

Despite minor adjustments in curricula to suit local conditions, the curricula in West African universities are drawn up on the assumption that the African has no indigenous culture worth studying, and no organization of society worth the attention of undergraduates. An African can graduate with an AB knowing practically nothing about the intricate political and social structure of his own race —the fascinating and complex network of organization among the Kede tribe along the Niger, which includes even a sliding scale of income tax according to the number of canoes a man owns; the reverence for the earth among the Tallensi and the ingenious checks and balances which protect them from autocracy and contribute to good government; the economics of Yoruba trading; the laws of ownership and inheritance of land among the Ibo; the dignified and sophisticated pattern of judicial procedure among the Bemba; the elaborate and subtle system of education among the Mende. This is not just interesting antiquarian knowledge. It is essential knowledge for the African intellectual who will become a civil servant or a teacher and who has the challenging responsibility of leading the common people from the old Africa to the new.

The difficulties in the way of incorporating African studies into the undergraduate curriculum are, of course, formidable. The subject is not codified. The textbooks are not written. To anyone who raises these difficulties, I would say that they would by now have been less acute if the importance of solving them had been recognized by the commissions on higher education which reported over 25 years ago. But if universities are to put down roots in tropical Africa, the first step must surely be to study traditional African societies and the way they change under the influence of the West as a compulsory subject at the core of the curriculum, not simply as a somewhat unconventional option as it is at present in those places where it is taught at all.

The danger in West Africa is similar to the danger to which India has succumbed—that the inevitable gap between the intellectuals and the mass of the population will widen until in the end even kinship ties and tribal loyalty may be unable to bridge it. A second danger is complementary to the first. A reluctance to adapt the curriculum to include African studies is coupled with a determination, supported both by the expatriate staff (for obvious reasons) and by many African intellectuals, that African universities should remain replicas of British universities. This mimicry applies both to the curriculum and to the pattern of government.

Take, for example, the emphasis on special or honors degrees. Over half of last year's graduates from the African university colleges took honors or special degrees. Even in a sophisticated society like Britain, this urge to take special or honors degrees has been carried to excess, and some British leaders of academic thought are trying to discourage it. In West Africa, where (to quote the Asquith Report) the need is for graduates "who have the standards of public service and capacity for leadership," the curriculum to be encouraged should be one which covers a broad field and cuts across faculty barriers. But the present flow of the current of academic fashion in Britain and in West Africa sweeps the abler students into specialization.

Dangerous Reluctance

A similar criticism can be made of the detailed curricula. It is true that London University has been generous in permitting variants in the curriculum for London degrees, even to the extent of holding examinations in subjects which are not part of the conventional syllabus, *e.g.*, sociology in Makerere and government in Ibadan. But even in grasping these very limited opportunities for adaptation, African university colleges show symptoms of a reluctance to be flexible.

Over some subjects, such as medicine, they are given virtually no opportunity for adaptation. They tie themselves to a syllabus designed to produce general practitioners and consultants for an overcrowded technocracy with almost the lowest infant mortality rate in the world. West Africa needs consultants not in radiology but in social medicine; it needs not hospitals but drains. Two years ago, Professor Graham Bull visited Nigeria and shocked some of the leaders in the medical profession there with his views. He said,

> Expenditure should be mainly in the field of public health. Curative medicine is a luxury which must be dispensed very sparingly . . . Public opinion is still sufficiently ill informed to prefer a hospital to a piped water supply, although the latter will probably save ten times as many lives . . . British and American medical schools do not provide a suitable curriculum for doctors who are to work in Nigeria and other tropical countries . . . I was disappointed to find that University College, Ibadan, follows the British system very closely. The training it provides is as good as anywhere in Britain, but it is of the wrong sort. I believe that emphasis on preventive medicine should be very much greater. There is an opportunity here to develop a new approach to medicine which will be unique in providing an example for other developing countries to follow.

Here, vividly focused, is an invitation to adaptation. If it is accepted—not only for medicine but for agriculture, law, and in particular for the whole pattern and emphasis of arts courses—then the West African university could become part of West African society, just as the University of California is part of American society and the University of Moscow part of Russian society.

The prime task of universities in West Africa is to become West African universities. In the course of this acclimatization, their functions will become defined. Already certain functions are evident. These are (1) to maintain an unswerving loyalty to international standards of scholarship, (2) to assume responsibility for providing the men who will build nations in West Africa and to be willing to act for a generation or more as a spearhead of change in the community while remaining disengaged from politics, and (3) to integrate themselves into West African society. This integration in turn requires a redrafting of the constitutional patterns of universities and a radical revision of the curriculum in order to bring African studies into the core of the humanistic disciplines.

For the Record

To disenthrall ourselves

IT IS JUST A HUNDRED years ago this month—this month in which we celebrate the courageous gentleness associated with the name of Jesus—that General Ulysses S. Grant, driving a Union wedge deep into Mississippi, led his troops into the town of Oxford. Encamped on the grounds of the University of Mississippi, then in its fifteenth year of academic existence, they went about their grim but necessary business of insisting that America was one nation, permitting and encouraging vast latitude for differences and for individuality, but dedicated to a core of basic principles and ideals embodied in the Declaration of Independence and the Constitution.

While Grant and his men went about their unhappy but urgent duties in Mississippi, Abraham Lincoln in Washington began the month with a message to Congress:

> In times like the present, men should utter nothing for which they would not willingly be responsible through time and in eternity. . . . The dogmas of the quiet past are inadequate to the stormy present. . . . As our case is new, so must we think anew, and act anew. We must disenthrall ourselves. . . . In giving freedom to the slave, we assure freedom to the free—honorable alike in what we give and what we preserve.

With the echo of federal troops tramping across the campus of the University of Mississippi again in our ears, it is well to recall Lincoln's visionary, hopeful, but heart-wrung words. The task he assigned is a difficult one. Perhaps its difficulty is nowhere better illustrated than in the position taken by Thomas Jefferson, one of the wisest and most remarkable Americans our huge continent has yet produced. Himself the owner of many slaves, the great Virginian was a vigorous and lifelong opponent of slavery. In the first draft of the Declaration, one of the bitterest charges Jefferson brought against George III was that,

> He has waged cruel war against human nature itself, violating its most sacred rights of life and liberty in the persons of distant people . . . captivating and carrying them into slavery. . . . Determined to keep open a market where men should be bought and sold, he has . . . (suppressed) every legislative attempt to prohibit or to restrain this execrable commerce. . . .

But it was one thing to charge England with unbearable violations of the rights of men, thus justifying a war of rebellion; it was quite another to attack as humanly abhorrent an institution that would remain as an American problem once the tie with Britain was broken.

Disapproved by representatives from the southern colonies, particularly South Carolina and Georgia, the paragraph was struck, and it required the tragic violence of a civil war, 85 years later, to reassert the "most sacred rights of life and liberty" for America's Negro population.

The point that concerns us here, however, is the strange limitation on Jefferson's conception of the problem. "Nothing is more certainly written in the book of fate," he said, "than that these people (the slaves) are to be free; nor is it less certain that the two races, equally free, cannot live in the same government." Because of the "deep rooted prejudices entertained by the whites; ten thousand recollections, by the blacks, of the injuries they have sustained; new provocations; the real distinctions which nature has made; and many other circumstances," he feared the horrors of a race war and advocated that emancipation, demanded by every consideration of human decency, be supplemented by deportation. Not even a catholic mind like Jefferson's could disenthrall itself completely.

Yet Jefferson's limitations, so much less than our own, serve as no excuse for ours. If the task of disenthralling ourselves is a difficult one, the shame and ugliness of Mississippi underscores its immeasurable importance. One of the nuclei of freedom is the accessibility of opportunity, and there is a sense in which slavery is still with us when a qualified student is turned away from an institution of higher education only because his skin is dusky. Another nucleus of freedom is the agreement of men to live together according to law, subjecting their own passions to the needs of society in order that all may enjoy greater safety and a wider range of choices. There is another sense in which slavery is still with us when the admission of a single qualified student to a university converts rational men into an emotion-ridden mob, driven and controlled by primitive impulses to violence. There is no escaping the sad conclusion that in Oxford we have dishonored, for the moment at least, both what we gave and what we proudly preserved a hundred years ago.

Nor can those outside Mississippi and the South afford to be Pharisees on this score. Indeed, the significance of the Mississippi rioting lies in its symbolizing for all of us our thralldom to the inadequate dogmas of the past and to our unwillingness to think anew, to act anew. The North has a far from unblemished record in the matter of race relations, nastily attested to by *de facto* segregation in schools, discriminatory housing, and too many instances of mob violence. The horror of watching the crisis in Oxford is akin to the horror of looking into one's mirror with suddenly unveiled eyes and seeing there the small-minded panther that lurks in the heart of us all. Lincoln was right: To emancipate slaves, one must emancipate oneself from the beast in one's breast and win in some significant degree to a new level of distinctive humanity, where freedom is more valuable, more honorable, and more rewarding than mere license. The charge to disenthrall ourselves applies universally, not just to the people of Mississippi and the South.

The issue, then, is not one of states' rights or the validity of the Fourteenth Amendment or any other narrowly conceived legal or political matter. Rather, it is one of the basic decency of each of us living in the modern world. As is so often the case, to formulate the problem in moral terms, which means in terms of the fundamental relationships among men, is to couch it in the language of utmost practicality. Caucasians inhabit a globe on which they are a decided minority. Stirrings of self-consciousness and a realistic feeling of new powers among the colored peoples of the earth are apparent to all but the most determinedly blind. The day is not far off when the imperative of decency, that one treat one's neighbor as one expects oneself to be treated, may become desperately apparent as a sheer law of survival. From the old notion of white supremacy in strength, we must disenthrall ourselves.

The day is already upon us, of course, when in entertainment and athletics, the two avenues of social mobility that have been most available to Negroes in America, we must acknowledge equality of not only ability, but downright accomplishment. Indeed, our Olympic teams would be in dire straits in international competition were it not for our Rafer Johnsons and Ralph Bostons, and Leontyne Price and Louis Armstrong, in their strikingly different ways, are only authentic examples of artists who have brought us pleasures that we all acknowledge with gratitude. As Negroes continue to achieve increasing success in law and in medicine, in scholarship and letters, in politics and administration, thus confirming the consistent findings of behavioral scientists that Negroes are in no way inherently inferior in their capacity to whites, it will be impossible to deny their right to cultivate their potentialities. One reason for this state of affairs is straightforward and blunt: We need them and what they can offer. Just as we need broad jumpers and opera singers to represent us, so do we need physicists and poets and public administrators; and the urgency is becoming such that skin color cannot be allowed to matter. From the old myth of white supremacy in intellect and character, we must disenthrall ourselves.

Our need for intelligence and competence is set, of course, in a world that daily becomes smaller, more crowded, and more tense. To the extent to which we believe in our way of life, we must be mindful of the consequences abroad of our methods of dealing with our internal affairs. One shudders to think of the capital that is being made in Africa, Asia, and parts of Latin America by Soviet propagandists on the basis of the Mississippi episode. The oceans that wash our shores are no longer screens for our lapses from decent humanity, and the old distinction between "domestic" and "foreign" enterprises has become blurred. From parochialism and the outmoded security of isolation, we must also disenthrall ourselves.

Lincoln, in other words, was most practical just a century ago when he was being most subtle, most mystical. He concluded his message to Congress in December, 1862, with a paragraph edged in irony:

> We *say* we are for the Union. The world will not forget that we say this. We know how to save the Union. . . . The way is plain, peaceful, generous, just —a way which, if followed, the world will forever applaud, and God must forever bless.

If we substitute "United States" for "Union," we have words as fresh as the day they were penned and just as urgent. The way is the attainment of decency—the judgment of people as *people*, regardless of their skin color, and the extending to them of full opportunity on the basis of their individual qualifications, not their racial membership. Only then will we be able to feel once more "honorable alike in what we give and what we preserve."---EJS

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Training the ruler: Confucian and Victorian schools

For a short period of its history, roughly from 1870 until the First World War, Britain possessed an educational system remarkably similar to that of post-Han Imperial China. Both systems helped to produce a governing group accustomed to social privileges and marked by a distinctive bearing; both tailored a classical curriculum to meet the requirements of civil examinations. On the one hand, they expanded a national pool of future leaders by contributing to social mobility, and they sought to make privilege a symbol of duty. On the other hand, they reinforced class distinctions, and they morally downgraded the commercial occupations. Pursuing the ideal of the "gentleman" in personal behavior, both Confucian education and the Victorian public schools evoked the spirit of public service by essentially irrational means—a web of custom and etiquette that made self-restraint and community loyalty a matter of good aesthetic taste as well as good morals.

Why such similar educational systems appeared in such contrasting societies is not our concern here. It should be noted, however, that whereas the values of Confucian education corresponded overwhelmingly to the predominant beliefs of Chinese society, the traditionalism of public school life was a counter to certain strong themes—the liberalism and flux of the industrial revolution—in the British environment. It is small wonder, therefore, that the Chinese examination system survived many centuries, whereas the British public schools will barely have lasted 150 years as the principal supplier of national leaders.

Despite these differences, an evaluation of the two educational systems taken together is well worth the effort for the student of modern education. In the world today, the use of education is becoming a highly developed adjunct to power. Developments in contemporary China and the Soviet Union have shown the special reliance that totalitarian governments place on educational technique. A new definition of "liberty" may have to be found when political authority can train the individual to cooperate "voluntarily" with his fellows and to identify his private desires as fully harmonious with state aspirations.

The Dilemma of Supply

For the man who would learn about the nature of totalitarian education, then, there are lessons to be learned from the experience of Imperial China and Victorian England. The most important is that any educational pattern closely geared to a state supply function, to the output of public servants, faces a twofold dilemma, however unrecognised it may be. First, it runs the risk of starving certain professions, such as commerce and the arts, that nourish the state materially and intellectually. It may do this both by luring able men away from these professions and by developing unsuitable characteristics in those who do enter them. The second liability in making education serve a direct political function is that it may instill loyalty at the expense of the imagination. The most efficient way, after all, to inspire a state orientation in a majority of students is to employ methods of subrational indoctrination and to develop an unquestioning group spirit.

Such was the dilemma with which both Victorian public schools and the educators of Imperial China unwittingly had to deal. In a way, perhaps, the dilemma was a mere extension of the problem that has beset schools and universities nearly everywhere—the need to foster both faith *and* intelligence, both moral assumptions *and* a questioning and inquiring spirit. To judge both systems against this dilemma, we must first analyze their supply function—the way in which they supplied government with leaders. We must then ask what qualities the leaders were actually imbued with. The central question, therefore, is the old one of "character and organization," the relationship of educational values and outcomes to governmental institutions, processes, and policies.

In England, Samuel Butler, onetime headmaster of Shrewsbury, could define the public school in 1821 as a place where "boys are educated in the higher departments of literature, with a view to their entrance into public life." Some 43 years later, the schools were considered enough of a national institution to warrant a Public Schools Act, which strengthened the headmasters' powers and called for government approval of each school's controlling body. Despite these straws in the wind, however, the relationship between the public schools and the state remained unofficial and direct. As the process of Civil Service reform proceeded—a process that culminated in 1870 with the institution of open competitive examinations for administrative class ranks—the public schools adjusted to meet the new academic standards set by government examiners. Uppingham's Edward Thring represented a new era of headmaster reformers who, strengthened by the Public Schools Act and encouraged by the Clarendon Commission, widened and intensified the curriculum.

Transport and Mobility

Behind the political role of the public schools lay two factors that came into play during the nineteenth century. The first was an improvement in road and rail transport, encouraging parents who could afford it to send their sons away to boarding school. Both in speech and outlook, the public schools began to exert a unifying influence on the upper classes and to create a central pool of leadership trainees.

This pool the schools expanded—and here lay the second factor in their influence—by opening their gates to members of the rising middle classes. Thomas Arnold's formula of the "Christian gentleman" formed a satisfactory basis for the co-education of the sons of professional men and of aristocrats. The public schools' new emphasis on "character" suited the Philistine respectability of the middle classes, and their claim to inculcate gentlemanly manners met the landed classes' aesthetic requirements while satisfying bourgeois ambitions (*3*).

Despite the admission of the middle classes (or perhaps because of it) the Victorian public schoolboy was apt to be a snob. The middle class boy who was sent to a fashionable public school to be made a gentleman came away imbued with the gentry's concept of what few careers were worthwhile. Government service and the church were best; law and teaching—at the right place—were acceptable, often more so than medicine; business was called "trade" and considered both vulgar and selfish.

The belief that gentlemen *should* go into government sprang easily from the landed classes' traditional hold on political power, a hold that showed little sign of diminishing for nearly two generations after the Reform Act. Public school institutions, moreover, propagated the virtues of *noblesse oblige*. The first school mission to slum areas was founded in 1869, and many prefects had once done manual labor as "fags." Custom and etiquette, with their emphasis on "house spirit" and "teamwork," made up another factor in directing the student toward public service. So did the institution of games, with its endless train of colors awarded the heroes who brought prestige to their school community. Perhaps the epitome of the public schools' gentlemanly ideal was the JP, or Justice of the Peace—amateur, unpaid, and socially looked up to.

Finally, there was the role of boarding school hardship in acclimatizing young men to the material disadvantages of working for the government. This point applied especially to the colonial service, where physical discomforts and family sacrifice had their public school counterparts in unheated dormitories and monastic isolation.

The Chinese Pattern

Under the Chinese Empire, the organization of education was more deliberately and officially linked with the recruitment needs of government than the schools of Victorian England ever were. By the seventeenth century, the state supported schools could declare one aim—to prepare men for government degree-examinations. Social and economic factors compelled most schools and private tutors to tailor their subject matter to examination requirements, for the merchant and farmer never acquired enough power to attain the official's social prestige. So inextricably linked did scholarship and office-seeking finally become that, during the late Ming era, men came to view government office as a prime symbol of culture (*6*).

Like the British public schools, Chinese education provided a national pool of candidates for government office. In a geographically diverse land, it helped produce a unified culture. Against great variations in dialect, for example, it taught a written language understood by every official and would-be official. Also like the public schools, the Chinese system expanded the pool of government candidates by accommodating social mobility within a class society. Examination by open competition opened senior government positions to promotion by merit, and frequently a clan or village would unite to finance the education of a poor but talented member. On the other hand, the details of Chinese writing and the Confucian classics demanded long hours of memory work; like the classical bias of the British Civil Service examiners, this favored the family with a scholarly tradition and the money to buy an especially good education.

Even more than its Victorian counterpart, Confucian education instilled a state orientation by dividing occupations into moral categories. Confucian teaching induced an abhorrence of any vocation that smacked of selfish greed. Businessmen, for example, ranked fourth on the official social scale—behind officials and degree-holders, farmers, and artisans—and they were usually excluded from government examinations. Behind the moral categories quite possibly lay the gentry's fear of commercial power. It might also be claimed that the rational individualism of the merchant was potentially subversive to the Confucian emphasis on custom and manners as a means of maintaining the prestige of the gentry.

The main device, in fact, by which Confucian education instilled values was the complex network of manners and privileges known as *li*. Like public school etiquette, *li* derived strength from its appeal to tradition and aesthetic taste. Unlike public school etiquette, however, *li* did not support a system which posed family life as a possible distraction to public service. Instead, it placed filial piety and loyalty to the emperor on a common basis of manners. Whatever conflict of loyalty might at times occur, men sought government office for the added reason that it gave their families security *vis-a-vis* Imperial power (7). *Li* also inspired a state orientation by conferring special privileges on the scholar and the official, a counter to the material inducements of trade.

Since the bulk of *li* existed in writing, even the formal curriculum played a part in directing the student toward a government career. The classical writings, moreover, tended to do the same thing, witness the Trinemetrical Classic, which introduced quatrains on The Three Bonds—sovereign-subject, father-child, and husband-wife—right in the middle of a dissertation on natural science! Throughout Confucian thought there ran the belief that study could instill a notion of morality entailing a strong sense of public service.

Character and Organization

Having considered *how* the two educational systems supplied government with leaders, we must now ask *what sort* of leaders they produced. In both societies, the form of government depended on ethical self-restraint rather than law to prevent the arbitrary exercise of power. In Victorian England, a largely unwritten constitution and a national executive whose control of the legislature was tempered by custom and usage found their counterparts in the organization of public school government. By 1880, prefectorial power had become so great that often it represented an administration, a judiciary, and part of the school legislature—shared with each housemaster—rolled into one. Despite the absence of formal checks on their power, however, prefects generally acted with a certain self-restraint, certainly compared with the tyrants of pre-Arnoldian days. Custom and etiquette helped to foster such self-restraint; it prescribed "fair play" and the "light touch" in command, and by ordaining a hierarchy of privileges for each age-group, it limited the scope of prefectorial power.

In the Chinese Empire political responsibility also depended on ethical restraints more than it did on law. Confucian doctrine supported a *wu-wei* (minimum intervention) policy, and it taught that imperial government should, first and foremost, seek social harmony by providing an example of moral rectitude. Although, in practice, only a minority of officials actually followed the *tao*—selfless devotion to doctrinal precepts of good government—it is significant that such a minority nearly always existed.

If these two educational systems

worked to produce a measure of responsible government, they also supported what Walter Bagehot called "dignified" government, rulers whose authority was enhanced by a differentiated style and the magic of ceremony. The mark of the public schoolboy was not only his distinctive accent, but the casual assurance of the man who knows he was brought up to lead. A corresponding distinction in China was the scholar-official's ability to write fluently; state examinations tested the candidate's skill at gracing government memorials and documents with exquisite calligraphy and a poetic style. More than this, however, the very possession of a degree imbued the holder with moral prestige, since it was a widespread Chinese belief that study was a prerequisite for superior virtue. Through the teaching of *li*, furthermore, Chinese education defined and undergirded the privileges of the official—down to details of clothing, modes of address, etc. —and included knowledge of ritual within formal subject matter.

Both systems demonstrate how a government-oriented pattern of education can, first, perform a constitutional function by developing built-in restraints within the ruling class, and, second, help to produce a governing style that inspires deference on the part of the ruled. Our main concern, however, is with the central question of political education: How can a system geared to the inculcation of intense public loyalties also produce leaders imbued with imaginative foresight?

Loyalty and Reason

One of the central arguments behind Rudyard Kipling's *Stalky and Co.* was that the rules and customs of the Victorian public school were a threat to healthy individualism. Kipling correctly saw that the schools' new found attachment to discipline and group loyalties brooked ill for the schoolboy who might have wanted to go his own way. I say "might have wanted" because the system usually made its members *want* to conform to a narrowly prescribed way of life and to identify their private desires with a mystical fondness for the community. Only the most resilient individualist would willingly adopt an independent style of behavior when he knew that etiquette defined it as showing bad taste. At Winchester, for example, walking to class alone was frowned upon, and the boy who made close friends in a house other than his own was thought to be lacking in "house spirit."

Although the Victorian period saw a basic standardization of public school institutions, it was also the time when each school strove to make itself a unique object of affection by elaborating its own language, folklore, customs, and—occasionally—its own special variant of football. Examinations in school lore taught the entering new boy to treat the smallest customs as beautiful accoutrements in his worship of the community. Like Edmund Burke, the public schools posed their institutions as vehicles of historic wisdom, although in reality many of these vehicles were unknown before the days of Thomas Arnold. This point has particular significance here. It shows that the indoctrinator can employ the emotional force of an appeal to tradition even when the "tradition" is in fact quite new or, at least, a synthesis of new and old.

The division of the public school into fairly autonomous and constantly competing houses served to magnify group loyalties. In the small community, it is difficult for the individual to seek freedom in anonymity and to defy the customs that the majority hold sacred. The small community, moreover, can often claim special affection by its nearness to the individual, its ability to appear as a living thing rather than a remote and abstract concept.

Those public schools which severely limited individual privacy were in a specially favorable position for inducing group loyalties and the spirit of co-operation. As Bernard Darwin (*5*) speculates in *The English Public School*,

> the more boys live in their own rooms, the more intimate, as one imagines, will be their talk. . . . On the other hand, the more they live in common rooms, the more they will be likely to restrict themselves to general topics, such as the obvious one of the doings of the house team, and by so doing incline to a more passionate local patriotism.

Lack of privacy meant that the minority who might have resisted irrational appeals to tradition *per se* were confronted abruptly and constantly by the majority, those who are always content to follow convention. If the public school dwarfed the individual against the community and made the latter a value in itself, it only did so via public opinion.

It was for this reason that public school society was essentially totalitarian. Not only did it impose restrictions on physical privacy, but it placed strong subliminal pressures on personal desires. It induced the individual to seek vicarious pleasure in closely identifying with the group and in furthering its prestige. Because the custom and etiquette that instilled these loyalties were carried by public opinion, the public schoolboy was apt to stress the ideal of *voluntary* co-operation. On the national level, where opinion was less manipulated and controlled by authority, this ideal became the friend of genuine free choice and a democratic form of government. It appeared in L. S. Amery's service to the new Commonwealth "as a co-operative venture—of vivid human interest as well as practical promise" (*1*). It appeared in the voluntary service of amateurs—the village council chairmen and the Justices of the Peace—that made a measure of decentralized government effective. Above all, it appeared in the sensitivity to an informally gauged consensus which marked Cabinet government—the cooperative nature of Cabinet decisions and the fact that parliamentary deliberation could only affect executive policy because ministers paid attention to the "ear of the House."

Cooperation vs. Liberty

Within the confines of public school life, however, there could be found evidence that the ideal of voluntary co-operation does not necessarily inspire concern for political liberties. By using psychological pressures rather than physical coercion, by playing on motives other than fear, authority can induce a marked degree of conformity among its subjects even though they may *feel* that they are acting quite voluntarily. To some extent, of course, such pressures exist in all societies, but it is only in totalitarian communities that they are highly developed. Even here they may not be developed in a completely conscious manner. The school Officer Training Corps commander who consistently told recruits that all their predecessors had joined the Corps of their own accord quite possibly believed that they had. Likewise, the Eton prefects who, according to Cyril Connolly (*4*), set some store by popularity could not always have realised the extent to which school symbols and etiquette influenced public opinion.

If public school life fostered a liking for cooperation, its system of privileges, crowned by prefectorial rule, also demanded great deference to hierarchy. This quality was well in tune with the requirements of political life, the discipline of the parliamentary party (especially the Tory party), and the loyal reticence and emotional detachment of the civil servant. This is not to say that the educational system was solely responsible for a certain pattern of political behavior. It does show, however, that education may or may not select for emphasis those social values which are also strongly emphasized in national politics. The relationship is less one of cause than of supplementation or, alternatively, of counteraction.

The academic curriculum with which the public schools balanced their indoctrination of loyalty was meant to provide a general, non-vocational education. What this amounted to was a syllabus focusing mainly on the classics, a specialist bias that it shared with the Civil Service examiners. By 1900, admittedly, most leading public schools had extended their curricula to languages and science. At Uppingham, Edward Thring introduced fine arts, and in many schools, the chapel became the music master's stronghold. Nevertheless, the classics remained supreme, both in hours devoted to them and in the weighting of grades. In 1905, Eton was quite typical in retaining a classics faculty of 32 masters, more than half the entire teaching staff.

The treatment of the classics themselves hardly fulfilled the ideal of a broad liberal arts education. For all except the very brightest students, classical studies usually meant long hours of translation that left little time to consider literary content and meaning. "They laboriously toiled at the scaffolding and never built the house" (*10*). The few very bright Sixth Formers who did experience the literary joys, however, were often the ones to win university scholarships and pass the stiff Civil Service examinations. Furthermore, the rigors of Latin translation did provide a general training and exercise in logic and analysis. Like mathematics, Latin demanded a disciplined manner of thought, following set rules. It is significant in this regard to note that Eton and Marlborough employed more teachers in mathematics than any other field except classics. And even the fact-cramming that many schools were prone to could be called a form of general education in the sense that it developed the memory more than it provided useful information.

All in all, the public school did give its members an admiration for versatility. It encouraged them to believe that what the leader needed for his role was primarily general qualities of mind. So equipped, the leader could forego specialized training and technical prerequisites for theorizing in advance.

Public School Mentality

What sort of mind did the public school, with its combination of loyalty-training and classical education, in fact tend to produce? Apparently, they bred mental flexibility rather than imaginative foresight. Faced with an urgent need to change, the old public schoolboy was usually resourceful in his adjustment. Confronted by crisis, he would "muddle through." What he frequently lacked was the interest in new ideas, especially ideas about technology and methods of doing things, that would have helped him to avoid crisis by looking ahead. If he was intelligent, he was also apt to be complacent.

Part of the trouble was the way in which moral indoctrination permeated the curriculum. Since most masters beneath the Sixth Form treated Latin as a moral as well as a mental discipline, it was not surprising that they paid little attention to evoking student curiosity. By the late Victorian era, Samuel Smiles had entered the classroom. Hard work—especially unpleasant work, for hardship "built character"—was regarded a virtue in itself. In *A Schoolmaster's Apology*, Cyril Alington, onetime headmaster of Shrewsbury and later of Eton, displayed the same moral concern when he confessed that he was "more anxious that a boy should have to deal and know that he is dealing with gentlemen than that he should be taught the best subjects by the best possible methods." Long before he wrote this, Alington's predecessors had downgraded the pursuit of learning for its own sake by permitting the glorification of games. During the 1870s and '80s, prefectorial power passed from the scholar to the athlete, and the playing field surpassed the chapel as the guardian of manly virtue.

But the schools claimed to instill character by other ways than games. Etiquette and custom roped off great sections of a schoolboy's life from the exercise of individual reason; they demanded an unquestioning faith in tradition and instinctive obedience to authority. "The business of a school," wrote a Harrow headmaster, "is to work and to get on with its life without bothering about whys and wherefores and abstract justice and the democratic principle" (*10*). Isolation from the outside world fostered intellectual conformity by the same token that it cemented the rule of custom. Politically, this phenomenon was very noticeable. According to one witness, the Wellington headmaster who married Gladstone's daughter found that his liaison "was not an advantage to the Master of a school whose boys came from largely Conservative families, to whom distrust and dislike of the great Liberal leader was almost an article of faith (*11*). Somewhat earlier, a headmaster of Clifton, himself a Liberal, incurred similar unpopularity.

To the extent, therefore, that conflict of ideas develops the imagination, the Victorian public school bred complacence—in thought if not in action. It would be wrong, however, to charge the schools with doing nothing whatever to produce adaptability when conditions obviously required it. The unwritten nature of public school traditions did enable it to change gradually, to invest new institutions with a false aura of antiquity. Criticism and minor reform did stem from internal sources like alumni rebels and strong headmasters. And certain features of extracurricular life—debate clubs, for instance, and the Officers Training Corps—probably facilitated the growth of quick thinking and initiative. But sometimes it seemed as if those very qualities of adaptability, added to vast reserves of self-assurance, discouraged the public schoolboy from showing imaginative foresight. The confidence that he could handle crises when they came along reduced his efforts to avoid them in the first place. (Hence the pride underlying such popular statements as "the Englishman loses every battle but the last" and "Britain somehow muddles through.")

Behind the Civil Service ideal of the generalist, after all, lay the belief that a properly educated man didn't need to indulge in advance theorizing; a developed memory and a quick mind should enable him to grasp the practical essentials of each problem as it arose. This assumption emerges clearly in the speeches of Stanley Baldwin. It is significant that Baldwin (*2*), with his unusual capacity to sense national moods and attitudes, could feel able to express in public and with such obvious relish an opinion like this one:

> The English schoolboy for his eternal salvation is impervious to the receipt of learning, and by that means preserves his mental faculties further into middle age

> and old age than he otherwise would. . . . The Englishman is made for a time of crisis and for a time of emergency. He is serene in difficulties but may seem to be indifferent when times are easy. He may not look ahead: he may not heed warnings; he may not prepare, but when once he starts, he is persistent to the death, and he is ruthless in action. It is these gifts that have made the Englishman what he is and that have enabled the Englishman to make England what it is.

Two World Wars

No one can deny that the men who came from the Victorian public schools, men who dominated the national leadership at least until World War II, showed general adaptability to the requirements of change. At home, the Conservative Party, like the constitution itself, *did* adjust to the implications of political and economic democracy. Abroad, Empire *did* give way to Commonwealth. Nonetheless, there were two great failures of the national leadership during this period: the military policy of World War I, with its unnecessarily high human sacrifice, and the failure to arm against Hitler in the 1930s. In both, entirely novel conditions appeared so rapidly that only the most vigorous imagination could have appreciated them in time to avert disaster. In both cases, too, attitudes engendered by public school education fatally reinforced attitudes that did not necessarily originate in education. Together, these attitudes inhibited national policy-makers from understanding and exploiting the new conditions they faced.

In World War I, few if any of the top commanders possessed the imagination to understand new technological conditions. The convoy system, the machine gun, the tank, and the mortar—key innovations all—were promoted not by the senior professionals, who actually tended to obstruct them, but by the personal intervention of Lloyd George, sometimes aided by his Cabinet Secretary Maurice Hankey, sometimes by an energetic temporary soldier or by a few junior officers (*1*).

Unfortunately for the senior commander, the special techniques that he had once learned in the field had suddenly become obsolete. His reluctance to abandon these techniques, moreover, was not likely to be lessened by a public school outlook. The OTC, the public school's one exception to the rule prescribing non-technical education, taught an old fashioned concept of warfare, and the school curriculum did little to teach respect for science. Then again, the public school characteristic of unquestioning loyalty and fondness for tradition found its counterpart in the similar attitudes that the military profession typically valued. Before the Somme offensive, for example, considerations of loyalty seem to have inhibited Haig's army commander, General Rawlinson, from strongly criticizing the plans of attack, though "privately he was convinced that they were based on false premises . . ." (*8*).

The public schools were not, of course, the sole cause of World War folly. All we can say is that the educational system failed to offset intellectual shortcomings that military habits tend to breed. This failure was particularly unfortunate in the First World War where the British generals and admirals wielded more power *viz-a-viz* civilian authority than they did in the Second (*8*).

During the 1930s, the threat of Nazi-ism called for a special display of imagination by the British government because England herself had not directly known a dictator since Cromwell. Here again, attitudes which the public schools endorsed formed a fatal alliance with beliefs and values from outside the public school system. To the pacifist principles of a George Lansbury, for instance, and the desire for comfort of a war-sickened people were added opinions more typical of a public school outlook: the over-confidence and narrow vision created by the psychology of island immunity, the premium placed by some leaders on discipline and political stability and their consequent respect during 1934 and 1935 for German rebuilding, and the Conservatives' tendency to fear communism more than fascism (*9*).

At crucial points, the public school set of values failed to perform a countercyclical function that might have produced a quicker national response to the German threat. In other words, attitudes fostered by public school life reinforced rather than countered trends of opinion that sprang from other factors in the social environment. The psychology of island immunity could be fed by monastic schooldays no less than by the facts of national geography and a proud naval tradition. Even the penchant for voluntary co-operation that delayed the introduction of conscription and consumption controls characterized the public school as much as it did the democratic polity.

Victorian and Confucian

Despite the two great failures of the national leadership, the government's over-all record of successful adjustment to change suggests that the public schools usually turned out able and intelligent, if not highly imaginative, public servants. Why were they able to do this?

One explanation may lie in the fact that the public schools never became subservient to the intellectual requirements of a single profession. True, those who criticized public school education in the same breath that they alluded to Germany's industrial achievements had an important argument. A forum for anti-trade snobbery and unexcited by science, the schools did little to further sympathy for technological innovation. On the other hand, they were always able to supply several quite distinct professions, within government as well as outside it.

It was probably also the case that the academic side of public school life tempered somewhat the anti-intellectual effect of the social side. Despite Samuel Smiles and the obsession with adversity, the curriculum never had to take the main brunt of moral indoctrination. The lesson of the Victorian public school seems to be, therefore, that a government-oriented educational system may produce both loyal and intelligent public servants by making a sharp separation between its loyalty-training and the syllabus of the classroom. It may still be maintained, howover, that those really imaginative critics and intellectuals that the schools produced emerged *despite* public school life rather than because of it.

But what about the educational system that relies heavily on the curriculum to instill loyalties and convey moral teaching? Can this system never produce intelligent and adaptable leaders? We can shed light on these questions by considering the curriculum of Confucian education and the imperial examinations.

In subject matter, the Chinese scholar received a more rounded literary training than the Victorian schoolboy (or, for that matter, the Oxford undergraduate) ever did. During the early Sung period, the doctorate in letters, a field which gradually eclipsed all others, required knowledge of ritual, cosmology, and the *Analects*, analytical compositions on given texts, poetry, and dialogue. Mathematics, on the other hand, fared less well. Although a mathematics degree existed during the Tang dynasty, the subject was only stressed as a universal examination requirement for a brief period under the Mings.

As a general training of the mind, Confucian education developed the memory at the expense of the imagination. Even the interpretive essays and poetry, constricted by rigid rules of form and the judges' deference to the ancients, became in time largely tests of elegant imitativeness. One reason for the growing obsession with a standardized form lay in the authorities' wish to find an objective grading standard. As strong rules of propriety provided a standard for social behavior, so rules of aesthetic form became a measure of academic achievement.

The great emphasis on memory work also stemmed from a certain attitude toward knowledge. Most scholars believed in a body of absolute truths, combining moral principles with cosmological laws. The essence of this knowledge, so most scholars believed, had already been understood and set down in writing by the Confucian sages. It followed, therefore, in true Burkean vein, that there were no new and basic principles to be learned about society or politics or life in general. As a consequence of this belief, Chinese education ceased to equate imaginative ability with the formulation of fresh ideas. By the late Ming, originality was so little praised that the "Southern School" of painting, derivative though it was, could call itself intuitional and spontaneous. What its "spontaneity" really meant was imitation of those ancients who were thought to be genuinely spontaneous (*6*).

Chinese Absolutism

Scholastically, the belief in a body of absolute truths already perceived by past interpreters fostered erudition, the devoted mastering of classical writings and standard interpretations, rather than independent thinking. Like public school Latin, however, some examination compositions demanded a capacity for abstract logic and the application of general set rules to a particular situation or problem. In this sense, and in its attention to the memory, Confucian education afforded a general training of the mind.

Concomitant with an absolutist concept of knowledge was the whole educational system's basic hostility toward inductive thinking. Educators consistently stressed the applicability of classical wisdom to concrete problems; they seldom asked whether, in turn, practice should develop wisdom. In technological matters, especially, there was little cross-feeding between theory and experience. The system stymied experimentation not only by discouraging inductive thought, but by making nonutilitarian pursuits into a gentleman's fetish.

Lack of inductive thinking, one must observe, characterized the public school curriculum as well as the Confucian. In spite of this, however, the academic side of public school life did not match Chinese education in its unfriendliness to innovation and change. The rigid principles governing Latin and mathematics were not aggressively applied to real life situations, nor did the moral absolutism of Divinity invade other subjects. Above all, the whole Victorian curriculum was slowly changing in response to its critics. Amid the rationalism and flux of the industrial revolution, public school traditionalism was a countervailing force. By contrast, the Confucian attitude toward change reflected the seemingly static conditions of Chinese society.

Quite obviously, the failure of Chinese education to produce imaginative innovators, reformers who could prevent the collapse of dynastic power, had many causes. We have already hinted at the general factor of a tradition-bound, agrarian society. But the educational system itself had various facets that precluded an imaginative response to change:

the belief in moral example, which led to the whitewashing of ancient biographies and the unquestioning veneration of the classics; the absence of intellectual dialectic due to the weakening of the non-Confucian schools; the written, and therefore resistant-to-change form of *li*; the exclusion of merchants from state examinations, and the apparent inability of educators to provide the military with the talent they provided for the civil service.

It is significant, however, that the first three of these factors were closely connected with the view that the curriculum should carry moral and social indoctrination rather than foster free-roving inquiry. This point carries special importance with regard to the aspirations of modern China. For here we find an educational system that uses its curriculum to manipulate loyalties and to instill strong faith in a prescribed dogma. At the same time, the system must produce men who can exploit all manner of change.

Is It Possible?

Can this in fact be done? Can the thought-reformers of totalitarianism achieve what their Confucian predecessors could not? If they have found a solution—and only time can tell if they really have—they may have done so by two methods, both related to our comparative study.

The first method is that of academic schizophrenia. Just as the public schools made a separation between classroom life and social indoctrination, so the communist systems of education may be seeking to identify spheres for free academic inquiry in certain fields. The most obvious fields for such freedom have been in the natural sciences, where loyalties are rarely challenged and where individual imagination can be used for the technological and military purposes of the state.

The second method of combining loyalty-indoctrination with nourishment for the imagination existed embryonically in the Confucian treatment of the classics—the use of an intellectually elaborate dogma to build loyalty to authority. Although the objects of loyalty may themselves be ultimately unquestionable, the educational system can induce a generally critical turn of mind by *associating* these objects with the exercise of close reasoning. This, at any rate, is the supposition. At present, Soviet and perhaps Chinese education (like that of the Jesuits?) seem to be employing both methods. Whatever the long range outcome will be, it will tell us something about the resilience and limitations of the human mind.

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In pursuit of better teaching

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The schools of America have produced a level of general literacy unequaled in the history of education. Never before have so many gone so far in formal learning. The extent and quality of education in this country represent our most important national resource.

This desirable situation did not just happen. It developed out of the ideas contributed by many thoughtful philosophers. It is a product of vigorous research in many areas of knowledge and an adaptation of the findings to the uses of education. It is the result of intensive interest and effort on the part of thousands of dedicated teachers and other educators all over the country who are constantly experimenting to improve teaching and learning. It is abetted by the development of better beginning teachers through sound programs of teacher preparation.

Never before have so many been actively engaged in the improvement of education. The literature on how to strengthen the educational enterprise has never been richer, nor have so many competent people ever engaged in assessing the outcomes of our educational programs and the means for making them still better.

Since World War II, hundreds of our educators have been traveling to other countries to assist in the improvement of the educational venture overseas. At the same time, thousands of educators and students have come to us from all parts of the globe to gain first-hand knowledge of how our own schools operate.

In the midst of all this evidence of quality and worth, there is a strident note of criticism and dissatisfaction. Those engaged in educating are surrounded with complaints and the private panaceas of particular interests. Educators are asked to turn their attention to quality education, to the pursuit of excellence, to challenging our gifted. They are admonished to devote more energy to subject-matter accomplishment and to getting pupils through school much faster. They are warned to eliminate the pap from their curricula. They are encouraged to forego attention to methods and, instead, have teachers in preparation learn their professional skills while on the job.

An appreciable segment of the criticism is fostered through selected mass media and is authored by those who often have had little actual contact with education. At times it seems that a concerted effort is being made by a vocal few to create, among the lay public, a maximum of confusion, distrust, and lack of confidence in our schools.

We are exhorted to return to the "good old days" when children got a "real" education. The virtues of some form of European education are extolled although often the same people who advocate European procedures would be the last to accept the purposes for which they are planned. Also, these people seem oblivious to the fact that political leaders in these same countries are publicly finding fault with their own systems of education and frequently suggesting the adoption of American principles and practices.

Fortunately, much of the criticism of education and teacher preparation stems from a sincere desire to encourage improvement. Often, new research underlies movements for change and adaptation. Responsible criticism of this kind must be encouraged, of course, as the first step in the steady upgrading of our educational enterprise.

Educators generally welcome this sort of critical analysis and are the chief contributors to it. More important, they are in position to take those vital next steps of experimenting to discover which criticisms are valid and what alternatives are possible. They can experiment, evaluate, and subject new procedures to further adjustment to insure the accomplishment of vital goals.

Good teaching continues to be recognized as the best guarantee of effective learning. Creative teaching is a complex of knowledges, understandings, skills, procedures, abilities, and attitudes which suggest differing emphases and differing combinations to various educators, some of whom become the authors of books on education. This accounts, in part, for the great variety in the books reviewed here.

Teachers have been released only recently from conformity to a fixed pattern of teaching. The pattern was prepared in detail by an "expert," and the teacher's role was to follow it implicitly. Digressions were frowned upon. Teacher-preparation was known as teacher-training—training to fit into a predetermined pattern.

Today, teachers are broadly educated, prepared for involvement in central decisions affecting their classrooms. It is recognized that good teaching can be plural, conditioned by such agents as teacher, pupils, community, and parents in a given situation. Needless to say, a more able person is required as a teacher in this kind of setting.

Teaching is a combination of selecting what is to be taught and effectively presenting it. The improvement of teaching must concern itself with both process and content because both are intimately related in classroom practice. Process and content are, in turn, guided by and responsive to the dynamic values and goals of our society.

Presently, the content of our curricula is undergoing an unparalleled scrutiny. Within various of the subject fields, committees are at work re-examining the nature, scope, and logic of their discipline. Recommendations have already emerged from some of these study groups and are in experimental use in many parts of the country. It will be interesting to note the results achieved with these new designs for selected segments of the curriculum.

This renaissance in the subject fields has been stimulated in large part by the present explosion of knowledge. Memorization by rote of unrelated facts is even less effective than formerly in dealing with the rapid expansion of contemporary scientific and technological discovery. The cooperative efforts of educator and subject specialist are needed to fill this gap.

Method or teaching process, too, continues to be examined and improved. Investigators in the many areas which influence teaching procedures constantly report pertinent data, useful to such educators as the authors considered here, who are attempting to build a unified, consistent approach to leadership in learning. Their books could serve as texts in the general methods courses found in most teacher-preparation programs. The beginner, just embarking on his student teaching experience, needs detailed help in bringing the principles of teaching into life, and this type of "how-to-teach" book can be of vital aid. For those teachers desirous of growing on the job, these books will also be welcome additions to a professional library. In these days of many teachers with substandard certification, books of this type can play important roles in in-service development.

Around what considerations are principles and methods of teaching built? Among the elements which appear in all or most of these eight books are child growth and development, principles of learning or learning theory, curriculum design, principles of teaching in specific subject areas, adapting the curriculum to the child, goals and purposes, organizing for instruction, planning for effective teaching and learning, and evaluating and reporting pupil progress. Some of the elements developed in only two or three of the books include scope and sequence, grouping, outcomes, trends in education (though some of this is implicit in all), integrating learning experiences, and the make-up of the school day. These items by no means exhaust the various concerns of the teacher, of course, but even this partial list serves to point up the complex nature of the teaching act.

There seems to be general agreement among this group of authors that teachers must more profoundly understand the child, the focus of our teaching. Research is adding information on this score both in terms of the general characteristics of the various age groups and with respect to the individualizing of instruction to fit the needs of particular children.

Most of these writers devote space to the psychology of learning or learning theory as the basis for establishing principles of learning. The importance of goals and interests in learning is especially developed. Good teaching is viewed as leadership in purposeful learning built on the carefully assessed needs and motives of actual youngsters.

The organization and management of the classroom is also given attention in these volumes, one of them using this topic as the core for its development. Included in organization are producing a stimulating learning climate, establishing useful controls, developing desirable interrelationships, and encouraging a maximum of self-direction. Suggestions are given for ways in which the teacher can improve the sociophysical environment for better living and learning.

Planning receives universal attention

here. Planning by teachers is seen as the means by which the goals of society can be achieved through the activities in which teacher and student engage. Preplanning is followed by a genuinely joint determination by teacher and pupil of details.

Evaluation is recognized as an important part of teaching and learning. No longer can we assume that when we teach, students learn. It is important to check frequently on the nature and extent of learning as the basis for revisions in planning and in teaching methods. Only through evaluation can we get any estimate of how well we are achieving our selected goals. Several of the books include helpful considerations of reporting to parents and of promotional plans as necessary corollaries to evaluation.

About half these books present material on curriculum design and the adjustment of method to the various areas of the curriculum. One book develops the bulk of its suggestions of principles and practices in relation to each of the subject areas usually taught in elementary schools. This is in contrast to another book which concentrates on developing a defensible set of principles of teaching with little mention of the fields of study. Whereas there is value in both approaches, there is a major risk of misunderstandings if process and content are considered as anything but closely interrelated.

Some of the other topics given space in these texts merit attention here. Two of the books are slanted toward a specific period in the growth cycle of a teacher, that of student teaching. It is significant, even though expected, that the theory and method advocated for student teachers coincide with those of the teacher in service. Growth in teaching, then, implies growing skill and understanding in the use of essentially the same practical principles and methods.

Only one book highlights the problem of individual differences with a section on teaching the exceptional child—the gifted, the slow learner, the physically handicapped, the speech defective, and the emotionally disturbed. About half the books, however, give some attention to teaching the gifted. An important result of including material of this type should be the elimination of an "average child" concept as a catch-all for most students in the perceptions of the teacher.

Obviously, teachers at any level can find material help in the books listed here. It is evident that good teaching depends increasingly on the teacher's understanding of children and his ability to work creatively with them. In this age when everyone wants to get into the act of curriculum revision, it is important that apparent improvement in one direction does not bring retrogression to another. It is the educator who must insure the proper balance between content and personal growth so that the end product will be an integrated person increasingly competent in managing his personal affairs and contributing significantly to society. The specific book or books selected for personal use will be determined largely by the emphasis needed to effect this balance.

Teachers are faced with the need to make many important decisions. Are some areas of the curriculum more important than others? Should we teach subjects and thereby keep the logic of the discipline intact, or teach children, thus emphasizing the logic of growth within the learner? Should intellectual growth receive all or a major portion of our attention, or is there still a place for attention to physical, social, moral, and emotional growth? The teacher's convictions on matters such as these will have far-reaching effects on present and future generations. The books listed show a surprising degree of consistency in dealing with such questions.

It is necessary, then, to shun any easy answer as to how to teach. Educators who help analyze the ingredients of good teaching must be encouraged. Through continued research and critical thought, we will further sharpen our ability to identify the elements essential to successful teaching and can then make these the common competencies of all who have a sincere desire to teach.

Reviews

Cormack, Margaret. *She Who Rides a Peacock.* New York: Praeger, 1962. Pp. xii + 264. $5.75.

The obscure but charming title of this book is derived from the symbolism of Saraswati, Hindu goddess of learning. But if its title sounds like that of a novel, this book is in reality a serious study of the implications of India's social agonies in a time of revolutionary transformation.

Observers studying contemporary Indian society frequently overlook her really fundamental difficulties. Foremost is the need of reconciling India's fixed spiritual past with the developmental character of the modern age. Traditional India is a beautifully formed, integrated way of life with fixed values and with abiding norms toward which all life is directed. In modern India, this conception has been shattered.

Dr. Cormack describes in detail this break of the modern with the traditional that has caused problems of unbelievable magnitude. As indicated by the subtitle, "Indian Students and Social Change," she is concerned with the important role that Indian students, particularly university students, are playing in the revolution in Indian society and its economy. From research studies conducted on many Indian campuses, the author outlines in detail the intellectual confusion about ends that is found among Indian students generally as they become involved in the modernization of India.

The author is at her best in the three concluding chapters. After discussing such problems as the struggle of youth against the older generation and the evolutionary changes taking place in family life, in marital relations, and in social structure, she indicates that student unrest is the direct result of the loss of traditional values. "Indian society is in transition from a geographically and socially *stable* society, based on family-village-caste communities that are *personal,* to one that is *mobile* and based on an urban-industrial *impersonal* society. The basic personalities of individuals reflect a rejection of external controls without the beginning of internal controls" (p. 227). Hence, "The spiritual crisis of contemporary Indian society is basically due to the initial encounter of an essentially religious and traditional society with the problems of a technological civilization... The problems of a modern technological society cannot be faced by traditional institutions and values, but by absorbing the spirit of the modern age, which expresses itself in scientific terms and faith in human potentialities" (p. 228).

The modernization of India is taking place principally in three areas—in politics, in economics, and in social organization. However, in every sphere of life the younger Indian intellectuals are called upon to guide the Indian people. "Quantitatively," the author observes, "they (university students) are largely a new group and qualitatively they constitute India's future leaders and specialists. This first post-independence generation probably holds India's future in its hands, for decisions made and patterns set in these formative years will affect the centuries to follow" (p. 3). Thus, while holding before themselves ideals of a better life, Indian students must somehow be educated in such a way as to avoid needless upset in the national life. It is easy at times of social change to become a destructive, utopian revolutionary. But what is needed is a dynamic, practical idealism. Also, Indian students need confidence that with wise and patient effort they can bring about a vital modern society in which the Indian civilization will flower in new splendor. This will certainly be impossible if the society is constantly disturbed by illusory ideals beyond realistic human capacities.

The book is recommended for students and researchers of the social development of India. Written in a readable style, it should lead to wider and deeper study by those who seek an understanding of the newly developing nations in Asia.

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Buros, O. K. *Tests in Print.* Highland Park, N. J.: Gryphon Press, 1961. $7.00 Pp. xxix + 479.

Before the publication of *Tests in Print,* the latest bibliography of tests available to a person in search of a complete list of tests available in any field was Hildreth's bibliography of tests and rating scales and its later supplement, published in 1939 and 1946 respectively. Needless to say, these two volumes by Hildreth were hopelessly out of date. Professor Buros has again performed a service to the field of testing and to test users with the publication of *Tests in Print.*

The volume lists 2,126 tests currently in print in English-speaking countries and gives cross-references to entries in the appropriate *Mental Measurements Yearbooks,* where the reader can find critical revisions of the tests and bibliographical references for each test. Thus, the volume serves not only as a source for locating names of tests but also as a cumulative index for the *Mental Measurements Yearbook* series. The volume also lists approximately 844 tests that were out of print as of 1961.

Professor Buros's objective in *Tests in Print* was to have as complete a listing of tests available in English-speaking countries as possible; therefore he has not been selective. Both good and bad tests are listed. However, Professor Buros has not been able to restrain himself completely from warning the reader in the introduction to the volume that bad tests do exist and that poor interpretation of test results is still done.

His concern for improved test manuals is reflected in his inclusion of the recommendations for improving test manuals made by committees of the American Psychological Association, the American Educational Research Association, and the National Committee on Measurements Used in Education. The reviewer feels that if only 10 per cent of the users of the volume read the recommendations and make use of them, testing will profit.

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Gallois, Pierre. *The Balance of Terror.* Boston: Houghton Mifflin, 1961. Pp. xvi+234. $4.00.

Once every few years—not oftener—a book comes to the attention of a reader which opens and illuminates what has been a dark and nebulous area in his mind. Even the most intelligent, best educated, and best informed individual has such areas, and frequently they encompass subjects about which he has read much, but with the result of increasing his confusion. *The Balance of Terror,* by former French Air Force General Pierre Gallois, acted upon this reviewer as just such a catalyst, forcing the rethinking of entrenched positions which proved to be, upon examination, mere platitudes and slogans based on incomplete or faulty information.

Before entering into the logical world of General Gallois's thought, a word must be said about his style, at least as it comes through translation. This book, subtitled "Strategy for the Nuclear Age," is a mere 234 pages long, in contrast to tomes running to thousands of pages recently published on the same subject by the Rand Corporation scientists and others. The result of this compression, however, is not superficiality, but great conciseness of thought and very tight reasoning, requiring extremely close attention to each page and each step of logic. Nevertheless, Gallois's arguments are presented with such lucidity and such pertinent illustration that the task is a genuine pleasure.

Ever since the first atomic bomb was dropped on Hiroshima in 1945, the effects and strategies of the nuclear age have been debated and discussed by heads of states, general staffs, military men, politicians, scientists, academicians, and everyone else interested in the survival and the progress of mankind. A general consensus of the liberal and generally malinformed portion of Western society which largely influences public opinion has been formed around two points: In order for mankind to survive, there must be general nuclear disarmament; in the meantime, membership in the nuclear club must not be allowed to spread. These positions are so widely held that even to question them is ordinarily looked upon as an indication that the questioner is either insane, naïve, or has some stake in aggression.

General Gallois challenges both. He backs up his challenge with an intense knowledge of the realities of both nuclear and conventional strategy, military and diplomatic. He states that the ballistic missile is the greatest deterrent to war which has ever been devised, *so long as the non-aggressive powers (the United States and its allies) retain their nuclear striking power.* If there is ever general nuclear disarmament, they are lost before the great superiority in men and conventional arms of the communist powers. Russia would have to launch a surprise attack and completely destroy the nuclear striking power of the United States or risk the certain destruction of its major population centers in retaliation. Given present technology, the complete destruction of the nuclear power of the United States would be impossible and, therefore, retaliation sure. Aggression and its anticipated fruits could bear no relation to the certain plunging of Russia into the dark ages and its obliteration from the ranks of world powers.

This balance of terror also gives the Western powers great advantages if they would only see them and act upon them as do the communist powers. A direct intervention in Cuba or Laos to save those nations from communism would never result in a general nuclear war because again the stake would not be commensurate with the destruction of a large portion of the Soviet Union. Besides, every nation, however small, which is capable of building a nuclear arsenal should do so or obtain nuclear arms from the United States. An attack on, say, Denmark would make no sense if it meant the certain destruction of Moscow and Leningrad.

A review of this length cannot do justice to the complexity and rationality of General Gallois's arguments. In fact, in their rationalism they may contain their greatest weakness. World leaders do not always act rationally and do not always properly weigh means, ends, and consequences. Nor does General Gallois discuss the possibility of nuclear war among the smaller powers. Nevertheless, this is a book of great power and conviction, very persuasive in both its analysis and in its warning for the West:

> Since present-day international diplomacy is based on pressure or threats, it is natural that by gambling on the fear shown by Western public opinion or on its ignorance of the true laws of nuclear age diplomacy, the East should prove more successful.

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Columbia University

Phenix, P. H. *Education and the Common Good.* New York: Harper, 1961. Pp. 271. $4.00.

The subtitle of this book, "A Moral Philosophy of the Curriculum," indicates that the author is calling for the reinvestment of moral and spiritual values in the curriculum. The book's central theme is the distinction between the life of desire or self-satisfaction narrowly conceived, and the life of worth, goodness, and excellence, conceived in terms of a moral commitment. Phenix claims that a commitment to what is excellent is not only the cardinal goal of instruction, but the key to the meaning of democracy.

It was to be expected that Phenix's next book would be somewhat along these lines. One who has read his previous works would recognize here many instances where older ideas reappear, often in a new context, and it cannot be said that the new book represents any significant departure from his former position.

One important value of *Education and the Common Good* is that it is not intended expressly as a textbook, so it will appeal to a wider audience than the usual student group. It has received the official stamp of approval from certain theological circles, but it is important to emphasize that it holds something important for all those who simply subscribe to a moral philosophy, although the author's criticisms of "autonomous man" will hardly stand him in good stead in humanist circles.

The book has unity because it concerns education and because it takes a common perspective from which to consider the content of instruction. Phenix is consistently clear in maintaining that education is a moral enterprise, whether the term "moral" refers to purpose or to conduct based on the consideration of values, their nature and their source.

The position which he takes, very staunchly, is that the moral enterprise makes sense only if there are objective excellences that invite the loyalty of men and constitute the standard and goal of human endeavor. He says that any serious concern to discover and to do what is right rests on the premise that there are objective standards of worth upon which universal agreement is, in principle, possible. The moral enterprise, according to Phenix, presupposes potential universality of judgment about values that are individually objective. It is, of course, on this very basic premise that his whole argument could founder. If one does not accept this postulate—and there are many who do not—then much else that he says is unpersuasive.

Phenix claims that democracy is the social expression of belief in objective qualities of goodness and of common loyalty to them. He goes on to state, however, that "it is not to be assumed, of course, that the content of the good is fully known or agreed upon. On the contrary, the continuing task of the democratic man is to seek ever fuller disclosure of the truth through study, reflection, experiment, and dialogue, moved by sheer devotion to a goodness that forever escapes complete finite embodiment and universal consensus."

In philosophical jargon, this book represents the testimony of the dynamic idealist, very sharply opposed to any hedonistic naturalism and angry with pragmatic relativism, but not opposed to pragmatic methods of study. Phenix is not, however, the old-fashioned idealist, for "no grim, joyless, aesthetic obedience to duty is advocated. Rather, the way is indicated to an abiding enrichment, fulfillment, and joy of life which follow from abandoning self-will, the quest for success and power, and the demand for autonomy in favor of dedication to the right and the good." Further, the fundamental presupposition of science is taken as the model for the moral enterprise in all its phases.

Like many philosophers, Phenix is searching for the one right way to education. By combining some of the best ideas from different religions, by borrowing from different philosophies, he hopes to make an agreed synthesis. This search for a universal panacea has been pursued generation after generation despite the fact that such an effort is probably quite illusory. The best that anyone can hope for is a certain balance between the conflicts that exist within each individual and within society. While recognizing the dualities, the dichotomies, and the two-fold conflicts that exist in every aspect of existence, Phenix still hopes to point to the one true way by synthesizing rather than harmonizing human goals. At the very least, he does an informatively good job of pragmatizing idealism and idealizing pragmatism.

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Barzun, J. *Classic, Romantic, and Modern* Boston: Little, Brown, 1961. Pp. xxii + 234. $5.00.

It is easy to give the conventional meanings of some words; in other cases it is extremely difficult. "Romanticism" is a puzzling one, and Barzun hopes both to explicate its meaning and to defend what it stands for. These joint goals, here as elsewhere, are not always mutually compatible.

In our culture, "romanticism" is in a pejorative stage, whereas "classicism" evokes positive if not eulogistic reactions. Romantic heroes call forth saccharine associations; classical heroes seem to be gallant mesomorphs. Barzun wishes to rehabilitate romanticism, and he is not reticent in exhibiting his aspirations:

> At this point I may state dogmatically what I shall show in the sequel, that romanticism is not equivalent to irrationalism, nor sentimentality, nor individualism, nor collectivism, nor utopian aspirations, nor love, nor hate, nor indolence, nor feeble-mindedness. Consequently, if any of these human traits particularly excite one's disapproval, one must call them by their proper names and not shirk responsibility for the judgment by terming their manifestations "romantic."

Historical romanticists are defined as those "Europeans whose birth falls between 1770 and 1815 and who achieved distinction in philosophy, statecraft and the arts during the first half of the nineteenth century." These romanticists had the job of creating a new world from the ruins of the dissolving (classical) eighteenth century. Barzun believes that historical romanticism was not an escape from reality but an attempt to create a new reality. The peculiar form that this romanticism took is to be attributed to an awareness of a great contradiction concerning man: "I mean the contrast between man's greatness and man's wretchedness; man's power and man's misery."

In his discussion of romantic art, Barzun argues that romanticism *is* realism. The basis of this contention is that romanticists are not trying to escape from reality, but to create a new reality. What is one to say about such a contention? Truth is achieved at the sacrifice of triviality. We can say of any artistic movement of any era that it is "real," and it is always possible to provide some evidence to support such an assertion. This procedure is obviously self-defeating, since the word "real" is applied to all artistic movements and, therefore, loses differential significance. Was it G. E. Moore who pointed out that when someone says that something really is so, what he says is really so is not so really?

This book is a second and revised edition of one originally published in 1943 under the title *Romanticism and the Modern Ego*. Changes in the text are minor, but an epilogue (pp. 140-154) is offered to bring us up to date. After the second world war, says Barzun, romanticists expressed their anger against a society which could produce such misery and horror. At the same time, the creation of a welfare state newly provides waves of consumers desiring art, and art is fed in huge quantities to hordes of people, thus becoming anonymous and stereotyped. These factors insure "abolitionism," the elimination of all of the high art of the last five centuries.

In illustrating abolitionism, Barzun repeats some of the standard criticisms of the contemporary arts. Action paintings and electronic music are symptoms of purposelessness, and "The only acceptable art is the art of Unconsciousness, of Accident, of No-meaning." He also criticizes Hollywood vulgarizations of good novels and popularizations of classical music. In voicing these familiar charges, Barzun says that he is not condemning our age but discerning its fate. We may "suppose the birth of a new consciousness neither far off nor unwelcome." I am unable to make any predictions concerning the identity of this "new consciousness" from anything presented in *Classic, Romantic, and Modern!*

A book as cosmic in scope as this one will necessarily contain names that are dropped but not discussed and characterizations that are asserted but not justified. Each reader, I suspect, will feel discomfort in some of these cases. I, for example, would be intrigued to know what makes William James "America's greatest philosopher." I was not aware that Spinoza had demonstrated "that the only way the human mind can conquer an emotion is by attaching its thought to another and stronger emotion." It seems a bit late in this century to hear Freud charged with the view that all the glamour and significance of love are spurious, and I find it difficult to believe that Shelley was a "hard and able student of physical science, metaphysics, and psychology." Barzun quotes approvingly Trilling's statement that Shelley may have foreshadowed many of Freud's essential contributions, but I suppose that this must exclude what Freud had to say on love. Finally, Barzun is flatly in error in saying that the paradigm of science is "the seeking by experiment an unknown substratum which shall prove bedrock reality." John Locke may have subscribed to this notion, but he was a seventeenth-century classicist!

CAMPBELL CROCKETT
University of Cincinnati

Pearson, G. *Toward One World.* New York: Cambridge Univer. Press, 1962. Pp. viii + 333. $4.95.

This book, the subtitle of which is "An Outline of World History from 1600 to 1960," is explicitly written for the "nonspecialist reader." It is, however, a remarkable piece of scholarship—comprehensive, synoptic, and well organized. In addition to its general uses, it seems to me to hold a special interest for college and secondary school teachers, especially teachers of history.

Any consideration of history instruction runs at once into the handling of the problem of "facts" in relation to meanings, perspectives, values. This book is designed to be a fact book. It necessarily conveys the author's selection of facts, but they are objectively offered and the philosophy-of-history issue is virtually and intentionally not raised.

My own notion would be that here may well be an altogether admirable factual syllabus for a general "survey" course in history, leaving the teacher free to discuss interpretations, multiple causes, possible trends—in short, to philosophize on the basis of the students' mastery of the information in this cogent volume. The history teacher surely has a responsibility to consider the meaning of history, and this book could free him for a study in depth that could well give this whole subject a heart-warming and head-clearing appeal which it all too often does not seem to possess for the student groping in a world of discreet historical facts.

I would hope that Pearson's stimulating work might be read by history teachers in conjunction with two related works. One is the recently published volume by Professor Dexter Perkins and others entitled *The Education of Historians in the United States* (McGraw-Hill, 1962). (The reviews of this study in the January, 1962, issue of the *Journal of Higher Education* are also pertinent.) The other is the thoughtful *What Is History?* by Edward Hallett Carr (Knopf, 1962). If the truth is that we need a greater number of imaginative and "phosphorescent" history teachers, the volume under review can have its very relevant usefulness. Not every teacher can be a Spengler, a Toynbee, or some other provocative generalizer and stimulator of thought which is historically prompted, but far more can surely be done for students if the necessary fact record is readily grasped in relation to some orientation in perspective or some legitimate overview otherwise supplied. Such an attack cannot pretend to answer all the student's rightful questions, but it certainly should help to raise in his mind the significant issues in the light of which he can approach the events of contemporary life with special relevance to a universal society.

All this is suggested by indirection in Professor Pearson's final chapter, "The Problems of One World." Here he highlights in their current setting the topics of communications, government, food and population, science, and education. And he concludes his study with this paragraph:

> There is, therefore, a need not only for more and more specialist scientists and technicians but for "generalists" also, men who can study the interrelations of things and handle people with sympathy and skill. Otherwise the speed and complexity of modern organization may outrun or outwit its operators. We must educate, or we shall fall; we must also cooperate, or we shall perish.

This book is to be warmly recommended both to those who wish to review their casual historic knowledge in a more unified way and to those who freshly are motivated to acquire the foundation for a more penetrating understanding of today's forces at work.

ORDWAY TEAD
Board of Higher Education
New York City

Book Notes

One of the most obnoxious cliches among book reviewers is the enthusiastic blurb, "This is a volume not to be missed." Fortunately, we have found a book to which it applies with no necessity for the reviewer to feel guilty or the reader to grow wary. It is *Negro Education in America*, edited by Clift, Anderson, and Hullfish (New York: Harper, 1962. Pp. 315. $5.95). A yearbook of the John Dewey Society, its focus is wide, and its text is given essentially by Dewey's observation in 1939 that, "We have advanced far enough to say that democracy is a way of life. We have yet to realize that it is a way of personal life and one which provides a moral standard for personal conduct."

The problem of the Negro's relationship to American society must be set in the context of American democracy and the reactions characteristic of American people. Like other issues of great moment and great human poignancy, this one requires informed understanding and an acknowledgment of the personal responsibility of each of us, whether our skins are white or black. For example, Negroes must realize that, like virtually all other men, they live in a society in which they are "both given opportunities and denied them—with the denials inexcusable in every instance." Coping effectively with the special difficulties of Negroes requires a planful and rational concern with the broader question of denials of opportunity generally. Thus considered, the matter is both *social,* subject to attack through legislation and administrative action, and *moral,* demanding a reconstruction of our personal attitudes and interpersonal behavior.

Similarly, the tangle of argument and misinformation relative to Negro-white relationships involves hard facts that are uncomfortable for most of us to face squarely. For example, some people are straightforwardly inferior in some important ways to others. This point cannot be denied, but it has become bound up with prejudices that pervert it into the notion that *all* Negroes are inferior to *all* whites, just as it has led to implied denials on the part of some "liberals" that Negroes are ever inferior in significant ways to whites. "Equality" is a word that applies meaningfully only to opportunities, not to people, who are ineluctably different from each other. In learning to recognize the differences squarely, cherishing those that are valuable and giving proper weight to the superiorities of individuals, not of races, lies much of our hope of solving the soul-searing and ominous question of race relations. If it is urgently necessary that fully adequate educational opportunities be provided for Negroes, it is equally essential that education, along with other agencies of society, provide for blacks and whites alike a more thoroughgoing understanding of the moral democracy that may yet unlock the door to a satisfying resolution of our racial tensions.

Another problem that is still curiously with us, despite our contemporary freedom and moral "enlightenment," is that of venereal disease, sexual conduct, and social hygiene. The thing that makes the issue strange is the persistence of the taboo that still hangs tenaciously around anything associated with sexual matters; free discussion, inquiry, and learning are not easy for all the infusion of sexuality—including its sometimes excessive intrusion—into literature, the press, oral humor, etc. C. W. Clarke's *Taboo: The Story of the Pioneers of Social Hygiene* (Washington, D. C.: Public Affairs Press, 1961. Pp. vii+109. $3.25) is a courageous telling of a courageous effort.

Two conferences in 1899 and 1902 launched the movement to control venereal disease, combat the institution of prostitution, and instruct the public at large with respect to health problems associated with sexual functioning. The biological issues have not been excessively difficult, and we have reached a stage where the control of VD, for example, is technically quite feasible. The reason for its persistence and for its startling high incidence among adolescents has to do with the availability of information and the role of candor in the development of healthy attitudes. The influence of taboo, what Bernard Shaw called the "traditionally inculcated convention that certain things must not be mentioned," has weighed heavily on the family and the church as well as the school. Notably, the influence of taboo has been stronger on serious and humane efforts to deal with problems than on sheer public expressions of sexual interest. A continuing complaint of Dr. Prince Morrow, one of the pioneers in social hygiene, was the reluctance of newspapers to publish scientific information about venereal disease and prostitution as against their avidity in publishing the lurid and sordid details of their effects. To a significant degree, the same complaint is still appropriate.

For schoolmen, the significance of Clarke's book lies in his tracing of the social hygiene effort to a point where, after World War II, it was realized that "educators, not necessarily physicians, are the best equipped to direct sex education." His argument is persuasive from the point of view of an ideal. It seems challengingly open to question with respect to the training and the personal attitudes that most teachers actually possess as a part of their equipment for so important a task.

Quite a different note is struck in Kenneth Eble's *The Profane Comedy* (New York: Macmillan, 1962. Pp. x+234. $5.00), an urbane appraisal of the "peculiar profession" of college teaching. Rather lovingly, Dr. Eble characterizes the American college as inclined to "talk so grandly of higher learning and be so tolerant of low performance, be concerned with discipline and provide so many ways to avoid it, be so enamored of research and so unmindful of pedantry." At the same time, he acknowledges the real effort of our institutions of higher learning to "civilize without cheapening the value of thought, and educate at a high level of aspiration without demeaning the intrinsic worth of every human being." Such a balanced view is not easy to maintain while still commenting wittily and insightfully on the campus scene, but *The Profane Comedy does it.* The higher pay of athletic coaches than that of professors, the triviality of much that passes for "research," the susceptibility of boards of trustees to community moods and pressures rather than to educational values, and the odd lack of any explicit regard for developing the love of learning as an end in itself —all these and many other topics are discussed in these pages with pungency and familiarity.

One of the best chapters is that dealing with "The Fourth R," the remedial program in "dumbbell" English, "bonehead" math, etc. Dr. Eble makes no charges against inadequate preparation in the secondary schools. Rather, he argues that the remedial enterprises in college are reflections of a basic issue—the emphasis on educating to a high level a huge proportion of the population and the intrinsic difficulties of doing so. The weight of remedial responsibilities rests, then, on the "sale" of a college degree as practically and socially advantageous. To the extent that a degree has job value and snob value—and it has a good deal of both—it understandably obscures the subtle difference between attending college and earning a college education.

If Eble convincingly lays much of the peculiarity of the American college on the doorstep of social demands for educational comprehensiveness and inclusiveness, Max Lerner, in his Kappa Delta Pi lecture on *Education and a Radical Humanism* (Columbus: Ohio State Univer. Press, 1962. Pp. x+63. $2.50), rings a new change on George Counts's old theme, "Dare the schools build a new social order?" Lerner's thesis is that the emphasis in the American ethos on happiness and "fun" is unsuitable to the human condition in the modern world. He advocates greater attention to two great polar drives—on the one hand, the affectional life, with its responsiveness to nature and its premium placed on the acuity of the senses, so strongly in need of re-education in a postindustrial society that has been sharply disarticulated from the sensual capacities of man; on the other, the sense of tragedy, the admission of death as a fact of life and the willingness to face it without flinching. Educationally, this view means that the school must deal directly and in detail with the harshness of contemporary life: militant nationalism, the threat of communism, the reality and durability of the cold war, the ugly and callousing experience of living with nuclear stockpiles, etc. But it also challenges the school to create the conditions under which children can learn to find both individualized avenues of personal expression and a renewed sense of the human connection, extending now to people of different nations and different cultures, on the basis of which one can appreciate differences while still forging links of solidarity from the stuff of a common humanity.

Thus we return to the theme of *Negro Education in America*, the recognition of difference within a common humanity. It is an old, old problem—the problem of the One and the Many, of Unity in Diversity, of Stability and Flux. But now it is no longer the province of leisurely philosophers, but the urgent issue confronting all thoughtful men. Domestically and internationally, our fundamental search is for ways of looking eagle-eyed on human differences while simultaneously sensing human commonality. Education is one of the keenest instruments for conducting the search as well as for reporting its results.—JH & EJS

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By Ruth Barry and Beverly Wolf

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>
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Published in 1962 *214 pp.* *Cloth, $4.75*

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VOLUME 64 NO. 4 JANUARY 1963

HAL BORLAND
Salisbury, Connecticut

To keep this earth habitable

It is an ironic paradox that we should have begun to learn the necessity of preserving natural balances at the same time that we have achieved the means and the driving impulse to destroy them. Ecology, the study of all forms of life and their mutual dependence, has become a major science even while our technology has given us the most effective tools in all history with which to blight and despoil life's fundamental necessities. We now know what we should do for our present and future welfare, but we wilfully race toward irreparable change that violates that knowledge. This is an old conflict, this war between man's arrogance and his wisdom, but we have given it new and terrible dimensions. Reluctant to face its consequences, we call it a mere difference of opinion about conservation.

Conservation has a bland aspect as a word, but it now means the protection and preservation of our vital, natural environment. This includes the air we breathe, the water we drink, and the land we live on. A major part, but by no means the whole, of the objective of conservation today is the protection of our remaining natural areas and their native wild life: birds, animals, plants—the whole biotic community that would be there if man kept his hands off. This phase of conservation is based on the belief that our remaining remnants of wilderness and wild areas are a priceless economic asset as well as a vital resource in terms of human welfare. Life simply lacks an essential dimension if it is limited to a man-made world of machines and technology.

Theoretically and in the large, Americans believe in conservation, but when it comes to application of the theory, to actually preserving natural areas or even to checking pollution of air or water in specific areas, we find all manner of reasons to object. This contradiction of purposes is deeply rooted in our own traditions, as any student of history must know. Individually, we have an ingrained compulsion to save. Nationally, and even racially, we have a long history of exploitation and waste. Unless these factors are understood, the whole idea of conservation becomes little more than a perennial political dispute.

Riches Down the Drain

At the time of original settlement by European colonists, this country was an incredibly rich warehouse of natural resources—timber, grass, land, water, minerals, and wild game—that seemed inexhaustible. The original colonies were founded to exploit this incredible plenty for financial profit, and for generations the nation's purpose was to conquer and use the land and everything upon it. Parallel with this national impulse, however, was the pioneer's personal code, summed up in the maxim, "Waste not, want not." This precept had roots far back in human history and ranked just after the Ten Commandments in importance. Waste of his personal possessions was a reckless and even a sinful act for the pioneer whose gun, ammunition, axe, and plow were hard to come by and difficult to replace. They often meant the difference between death and survival.

So here was this man, this pioneer, carefully conserving his personal possessions, sent out to tame, possess, and exploit an area where natural resources were so plentiful they invited waste. If a farmer cropped his land to death or let it erode down to hard-pan, he could move with his precious axe, gun, and plow to new land only a few weeks of travel away. If a lumberman stripped a woodland, he could readily move his crew to another virgin forest. The sheepman whose flocks grazed the grass to its roots could move those flocks to new grass just over the horizon. Even the buffalo hunter could kill a vast herd down to the last bull, take the hides and tongues, leave the carcasses to rot, and find another herd a few hills away. Whoever he was, whatever was his occupation, he lived by a code that made waste a personal sin and exploitation a public policy.

But eventually changes set in that altered both the personal need to conserve and the public policy of waste, or at least of unlimited and extravagant use. The industrial revolution, which began in Europe in the middle of the eighteenth century and grew swiftly here throughout the nineteenth, began to wipe out the scarcity of material possessions. Power applied to the loom and the forge, a surge of mechanical invention, the swift growth of chemical processes, and the spread of easy and swift transportation ushered in an age of material plenty. But this vast revolution, coupled with a tremendous increase in human population, soon began to shrink the vast supply of natural resources. Under the twin pressures of use and waste, our excess of land, timber, grass, and clean water were clearly not inexhaustible, as we had so long thought they were.

From an age of material scarcity we have been swept into an era of manufactured plenty. But in terms of natural resources, raw materials as well as such essentials for healthy life as clean air and water, we are again approaching the point of scarcity. The old positions have been reversed. As consumers, we live in an era of planned waste. Our factories are so productive and our economic web so complex that unless we accept built-in obsolescence, use briefly and discard, our factories will grind to a halt and our whole economy will be in crucial trouble. Conservation of consumer goods has become an economic sin. But nationally we have passed the point where waste of resources can be condoned.

Lag in Wisdom

This is not the place to argue the merits of such an economic philosophy or do more than suggest its inevitable contradictions. But it is in order to point out how confusing it makes the whole basic belief of conservation. With the habit of personal waste so strong, and with the demand that we use and discard so insistent, it is difficult to believe in the necessity of saving a virgin forest, an unpolluted lake or stream, a beautiful seashore, or even a commercially unproductive swamp. When the new maxim is "Live it up!" even the poisoning of the air we breathe and the water we drink rouses only sporadic concern. In this new age, when our technology promises new miracles every hour on the hour, we seem to think that the solutions for all such problems are right there in the test tube or the electronic computer. We forget the fundamental facts of life. We forget the past.

Man's technology seems always to have outraced his wisdom in the use of natural resources. As far back as we trace their history, civilizations have risen on one system or another of plundering their environment, and they have fallen when that plunder was complete. When man had cut the forests, sapped the land of its fertility, or polluted his water supply, his city-states faltered, and his civilization began to die. With a strange arrogance, even a pride in human accomplishment to the point of self-destruction, we tend to blame social decadence and the invasion of barbarian hordes; but in almost every instance, the fall can be traced to reckless waste and destruction of the natural inheritance of the environment. Man persists in his belief that he can master that environment and cancel the laws of nature, but history shows that he has never quite succeeded in complete mastery.

Any one factor of such waste can destroy man and his works in the end, so rigid are the conditions of nature. Lack of clean water can be fatal. Lack of fertile farm land can starve him to death. Lack of trees can pyramid his troubles and make his downfall inevitable. Once the trees are gone, a whole train of disastrous consequences follows: There are subtle changes in climate; the water supply dwindles; erosion eats at the land, and even the fuel supply becomes an acute problem. The stark mountains of Greece today are a grim reminder of irreparable damage done to a green and hospitable land 30-odd centuries ago when Bronze Age Acheans came down from the north and stripped primitive Hellas to build an "enlightened" culture that, for all its enlightenment, inevitably perished, victim of man's insistent waste. The same story has been written on every continent, but man is slow to read and stubbornly reluctant to learn.

Margins for Safety

We are fortunate in having a land not yet completely exploited and in having among our scientists those who have learned the facts and stated the significance of man's relationship to his environment. The ecologists remind us that man, the most destructive of all predatory creatures, is only one element in the whole community of life and that when he upsets the balances in that community, he endangers everything in it, including himself. Basing his philosophy on the ecologist's facts, the conservationist attempts to do something about the situation.

Fundamentally, the conservationist wants to preserve human life, health, and sanity. To do this, it seems essential to check technological man in his headlong race to reshape the world in the image of the machine age. The conservationist would save at least enough of the natural environment to serve as a gauge against which to measure man's irreversible changes and to appraise their consequences. He would like to preserve sanctuaries in that natural environment where harried man could renew his soul and spirit, perhaps his body and his mind. He would save for future generations such now rare things as a virgin woodland, a vanishing species of bird or animal, an unspoiled lake, or even the soothing solitude of a mountaintop inaccessible to the automobile. He also fights for clean air and clean water around cities, and for parks within them. But he gets most notice when he insists that we should save and protect the wilderness and our remaining remnants of unspoiled land.

Because settlement came relatively late to the West, most of the land that would be protected by the various conservation programs is situated there. As a native Westerner, I can understand the stubborn resistance of many Westerners to these programs. Stockmen, lumbermen, and miners say, with a degree of plausibility, that they would be deprived of the grass, timber, and minerals that they regard as theirs by inheritance. They point out that they came late to the national feast, that the East and Midwest raped their own forests, pillaged their farmlands, polluted their streams, made culm-deserts of their coal lands, decimated their wild game, made honky-tonks of their beaches and their mountains, and created personal fortunes doing it. Westerners claim the right to use the natural resources of their own area to create similar wealth. What they fail to admit and refuse to accept is the fact that both the times and the conditions have changed. They would match a great folly of the past with an even greater one of today, for the remnant of wilderness and unspoiled land in the West is now a national resource beyond price, something which, once exploited, can never be replaced. They should be its guardians, not its exploiters.

I happen to have lived for a number of years in a part of New England that, although now called "unspoiled," presents an eloquent case history of what happens to an area which, with the best of motives, was shaped by the determined, industrious hands of a succession of inhabitants who believed that man was put on earth to possess it and use everything upon it.

The first white settlers who came to this part of the lower Berkshires had to chop a pathway through virgin woods to get here with their carts and cattle. In this typical valley and on its surrounding hills, they found a climax forest—white pines two hundred feet tall, oaks seven feet in diameter, huge elms and maples and chestnuts. The land was laced with brooks, and the Housatonic was a clean, quiet, benevolent river. Resident Indians grew corn, beans, and pumpkins in natural clearings, hunted wild game in the woodland margins, caught all the fish they could eat in the streams.

When Trees Are Enemies

But trees were the silent enemy of the farmer, barring his plow and harboring wild beasts. The white settlers cleared fields, first in the valleys, then on the hillsides. My own mountainside is mazed with tumbled stone walls that once bounded fields now long overgrown and inaccessible except on foot. Following the custom of the time, they burned most of the trees, using only what they needed for fuel and building material.

Then iron ore was discovered nearby, and smelting furnaces were built. The furnaces needed charcoal for fuel. Technology came to the area. The hillsides were stripped of their timber to feed the charcoal pits. The woodcutters left great tangles of slash, and careless fires swept through it, burning not only the waste but the woodland's underlay of duff and litter that for centuries had protected the soil and sponged the rain that fed the springs and brooks. Erosion soon stripped the hills to their fundamental rock. Springs failed. Brooks, swollen with every rain, gullied the tiring valley fields. The river, robbed of its natural reservoirs, became a temperamental, flood-prone stream. Hillside fields were abandoned and valley farms languished. Young farmers migrated to Ohio and Indiana and Illinois to clear and plow and plant new fields. Older ones were reduced to subsistence farming.

Eventually, new woodland began to cover the hills once more; but before a tree can grow, there must be soil. Soil accumulates with distressing deliberation, and it takes two human generations for a white pine to approach maturity. But about 75 years ago, there were trees big enough for sawlogs. Loggers moved in with their sawmills, and the harvest began again. Lumbering continued on a diminishing scale until about 40 years ago.

Today there is forest cover once more on most of the hills. It is third-rate woodland, but it is growth and greenery, and it eases the eye and somewhat protects the land. Thanks to erosion control and soil conservation, most of the valleys are again good farmland. But the whole area is indelibly marked by the heavy hand of man and his repeated exploitation. The river, poisoned by paper mills and polluted by the sewage of half a dozen defiant communities, is a public nuisance in Massachusetts although it somewhat purifies itself by the time it reaches my corner of Connecticut. And the air here is unpolluted by factory smoke; the underground water is clean and plentiful; songbirds nest here; there is a remnant of the original wild animal population; wild flowers grow at the roadside, and no superhighway yet traverses this part of the valley. We call it unspoiled—and in our very acceptance of that term, which is relative and ignores the whole rapacious history of man here, is the sad story of what can and does happen, what comes to be accepted as inevitable.

Devastation in Ignorance

I have seen the same things happen, in one form or another, in places far younger than this in terms of man's possession, most of them in the West, where the most vigorous opponents of public conservation would maintain individual rights of use and development. On the high plains, I have seen how profligate sheepmen overgrazed and destroyed grassland in a few years, grass that had endured for centuries before they came. I have seen greedy wheat farmers plow original sod on marginal land, reap a few rich harvests, and leave the raw topsoil open to erosion that will take years to heal. I have seen Colorado loggers strip a whole mountainside and lay it bare to the scarring of fire and wind and rain. And anyone who has driven from Denver to Idaho Springs and Central City must have seen the ghastly crime committed by ore-mad miners against the once beautiful stream still ironically called Clear Creek. It is such crimes against the land, committed in the pious name of use and development, that make conservationists so insistent on protecting parks and wilderness areas from exploitation.

Man seems by instinct to be a devastator, and as his technology advances, his capacity for devastation increases by a kind of geometrical progression. Give him an axe or a chain saw, and he must cut trees. Give him a bulldozer, and he must level a hill, fill a valley. Give him a cement mixer, and he must build a dam or lay a superhighway. Some of these things are essential and beneficial, but by no means all of them and everywhere. It is not necessary that man rebuild the whole earth according to his own plans, since those plans do not always coincide with the forces that made this earth to begin with and have not and never will be repealed. Man is not omnipotent, though he often acts as though he believes he were. This leads to an arrogance toward his environment that is insistently stupid and shortsighted, often immediately destructive of his own welfare. Examples of this abound, but I shall cite only a few.

Last fall, on an automobile trip west, I saw from forty miles east of Chicago a vast gray cloud that hung over the whole area like a foggy pall. It baffled me, since it was a brilliant, sunny day, until I entered the edge of that cloud still east of Gary, Indiana, and felt the bite in my nostrils. It was a cloud of smoke and fumes from the steel mills and other factories that rim the lakeshore for miles. It was the daily atmosphere breathed and lived in by perhaps five million people. Yet efforts to preserve and protect a small area of lakeshore dune country, located just east of the edge of that perennial pall, as a natural area and an occasional refuge from the metropolitan noise and fumes has been fought tooth and nail by men who insist that such conservation would deprive them of their natural rights. Rights to do what? To build more steel mills in that dune country, though our present steel mills are working at only a fraction of their capacity. To extend the acrid pall over a still wider area.

A few years ago, in response to regional demands, the United States Department of Agriculture undertook to wipe out fire ants in the South. A plan was drawn up to spray with dieldrin and heptachlor, chlorinated hydrocarbons, insecticides even more powerful and poisonous than the notorious DDT. Congress appropriated $7,000,000 for the program, although naturalists, conservationists, and scientists warned that the chemicals to be used were non-selective insecticides, dangerous to man and domestic animals as well as wild life in general, and would remain poisonous in the soil for years. Despite these warnings, six thousand square miles were aerial-sprayed. The spray killed nearly all the songbirds and game birds in the area, killed large numbers of mice, voles, shrews, and other natural insect eaters, killed most of the rabbits, squirrels, opossums, raccoons, and armadillos in the region, destroyed 80 per cent of the earthworms, killed fish and aquatic animals by the million, destroyed most of the beneficial insects—and did *not* eradicate the fire ants! The spray also killed swine and cattle, and nobody yet knows how many human beings were sickened and poisoned by it. Yet those sprays are still marketed, still advertised, still recommended, and still used extensively by the Department of Agriculture and other public and private agencies. Their manufacture and sale is a multimillion-dollar industry.

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Despoiling the Ocean

The people of the Los Angeles area have miles of Pacific oceanfront and seashore in their front yard, but they empty into its waters so much sewage and industrial poisons that it is dangerous to swim in it and noisome to use the beaches. Angelenos drive an aggregate of 50 million miles each year to reach relatively clean surf and beaches for their recreation. The people of San Diego have in their dooryard one of the biggest bays in the world, yet they so pollute its water, despite the constant flushing action of waves and ocean currents, that every drop of it, literally, contains a bacterium that could cause sickness or death. Well over ten million people live in cities and towns on the banks of the Hudson river between Albany and New York City. That river, once a clean, benevolent stream, could supply many times the huge amount of water needed daily by those millions of people, but they dump so much sewage, industrial waste, and other poisons into it that they have to spend tens of millions of dollars annually to bring potable water to their faucets from sources beyond the reach of their own filth. Most of the major cities of America have lakes or rivers in their dooryards, but all of them so pollute those sources that they must go elsewhere for the water they drink or must expensively filter, chlorinate, and partially purify water they have just contaminated. Not only are their own waters unfit to drink; in many instances they are unsafe to swim in. Yet every campaign to minimize pollution of public waters, a program that would save untold millions of dollars eventually as well as reclaiming streams, lakes, and beaches for safe recreation, is bitterly opposed not only by industry but even by municipalities. Why? Because those public waters have been expropriated for use as open sewers.

If such instances do not add up to arrogance and shortsighted stupidity, then I do not know the meaning of words.

A Habitable Earth

What can be done about it? We can face the facts. We can learn from history. We can study and draw our own appraisal of the findings of the ecologists. We can admit that man, potent and technologically powerful as he is, must eventually deal with natural forces and natural balances that he cannot cancel or repeal or reason away with his electronic calculators. We can see what is happening around us every day, weigh it against both the past and the foreseeable future, and be skeptical of the consequences of man's irreversible actions. If, as we have long believed, man inherited the earth at the beginning of his tenancy here, he inherited responsibilities as well as rights, and among those responsibilities is the obligation to keep it habitable not only for himself but for his co-inhabitants here, among whom, after all, he is vastly in the minority. That—to keep this earth habitable—is in essence what the conservationist is so insistent on doing.

DEVEREUX BUTCHER
National Wildlands News
Washington, D. C.

Wasteland or Eden?

I REMEMBER IT WAS ONE of those warm days in early spring, before any green begins to show. I was eight years old, my sister a year younger, and we were on one of our weekend walks with our father in a woodland near home. Crunching through the dry leaves of the woods, we came to a cluster of pale lavender flowers—squirrel cups, Father told us they were.

The effect of the delicate beauty of the blossoms in the somber woods was profound: the pale color of the petals, the stems coated with silvery down, a little plant in full bloom amid the brown, fallen leaves of the previous year at a time when flowers of any kind were the last things we expected to see. Even the name, squirrel cups, seemed to enhance our fascination.

Down the slope through a meadow, Father told us to listen. We stopped and listened and heard the most appealing bird notes imaginable. "Bluebirds," Father said.

Within a few minutes, my sister and I had become acquainted with two expressions of the world of nature entirely new to us. That was forty-eight years ago, but the occasion is as clear in memory as though it happened yesterday.

Wonder in the Hills

My first experience with big mountains occurred about six years later. At a New Hampshire summer camp, I had qualified for "the Mount Washington trip." We climbed into the Presidential Range by the Crawford Trail, and I well recall the heights above treeline, where the trail took off across broad expanses of high altitude country where alpine plants formed mats over the rock slides. The air was cold when we reached the Lakes of the Clouds Hut for the night. The stone building seemed part of the mountain itself, just what a mountain hut should look like.

Next morning we climbed in fog to the Tip Top House for breakfast. Soon the clouds began to part, so that we caught glimpses of the vast panorama from the summit; then all day we descended to spend that night at two small, peeled log cabins in an alder clearing, the Pinkham Notch Huts. These little cabins are part of the large buildings that stand there now.

The third day took us up the Great Gulf to the Madison Huts, where, after dark, I sat with our counselor gazing across the Androscoggin Valley to the twinkling lights of Berlin. The last day brought us by the Air Line Trail to the Ravine House. Increasingly in later years, I have taken pleasure telling about that trip because more and more I like to recall it and realize its significance in shaping my life.

It was only seven or eight years after

that that I spent some time on a ranch in southwestern New Mexico. I had read the usual books that appeal to the young, those that picture the dramatic scenery of the West, peopled with good men in hair-raising pursuit of bad men, and so forth. Indeed, to me, the West was a land of glamorous adventure. Thus, to ride the wilderness trails in the Gila National Forest, with its rimrock and breath-taking scenery, was like stepping back into those stories.

Since then, I have tried to recapture my feelings about the squirrel cups, the sense of wonderment I knew on the peaks of the Presidential Range, and to relive the thrills experienced in the Gila Wilderness Area. But the reactions of youth, the keenness of the mind and the senses, seem to have diminished. No. The pleasures of coming close to nature have not disappeared. They merely have become less poignant. Exploring wild country, seeing wild flowers, birds, mammals, the mountains and the forests, are still thrilling, and I cannot be long away from them.

My wife and I have visited all but one of our 28 great National Parks and almost all of our 34 national nature monuments and 17 national archaeological monuments. These, and the national wildlife refuges, of which we have visited more than 50 across the country, comprise some of the most inspiring of nature's masterpieces in the western hemisphere. We have fought for their preservation for the past quarter century. The struggle to save them as nature created them and to save wildlife habitats is never ending. Commercial concerns of many kinds —oil, lumber, mineral, hydroelectric power, irrigation, recreation—these and many other interests ignore the purpose of these areas and would capitalize on their material resources for individual or community profit at the national expense.

At times, the worst enemy of the national parks and monuments is the National Park Service itself, the federal agency created by Congress to administer and protect these priceless areas for ours and future generations. During the past 11 years, the Service has been turning a number of our finest National Parks into ordinary resort amusement centers, with the installation of ski lifts, boat launching ramps, roads of a needlessly high standard, and plush overnight accommodations in violation of the law and the original National Park concept.

Betrayal of Principle

Stephen T. Mather, appointed first director of the National Park Service in 1916, advised that Congress had established the great primary principle that the National Parks must be forever maintained in absolutely unimpaired form for present generations and posterity. Until Congress, having the ultimate decision, by legislative mandate annuls or changes this principle, it must be faithfully, unequivocally, and unalterably adhered to.

Until 1951, the Service did a magnificent job of park administration, but from that time to the present, the top echelon of the Service, lacking appreciation of these sanctuaries in their natural condition, unmarred by man-made structures, too often has encouraged their misuse by activities that defeat their purpose. The Service's leadership does not seem able to grasp the National Park idea in its fullest meaning—that these areas are nature sanctuaries, *not* resorts. The nation has paid dearly for this, and the Department of the Interior, to which the National Park Service belongs, has been warned about what has been happening. The Service is staffed mostly by men in sympathy with the National Park idea, but who, although dedicated and sincere in their efforts to see the right done, are powerless to correct fundamental errors in thought and action expressed in some of the directives originating in the Service's Washington, DC, headquarters and in its six regional offices.

With the Service's breakdown of principle, as evidenced by the invasion of the parks by practices, structures, and institutions that violate the basic concept, pressures increase for more and more of the same. Yet Robert Sterling Yard, head of the Park Service's educational division under Mather, appointed in 1919 as first Executive Secretary of the National Parks Association, warned the people that it is their duty "to protect the National Park Service from political and other pressures tending to disturb its calm judgment and force its hand, and from the propaganda of those who wish to alter the historic conception in furtherance of ideas and purposes of their own."

While we find a dangerous lack of understanding inside the very agency authorized to preserve the National Parks, there is an abysmal darkness throughout almost our entire population, not only toward the National Parks and nature monuments, but toward all of nature everywhere. Inability to appreciate and to know how to enjoy nature is perhaps at the seat of the trouble; but there also is apathy, that dead weight that seems to frustrate efforts to save remnants of our now fast disappearing wild lands.

Could it be that there is so great a difference between individuals that few at the age of eight would remember during his life how he felt when he first saw squirrel cups in bloom in the winter landscape? What has happened to those young fellows, my camp mates, on the Mount Washington trip, and others I knew on the New Mexico ranch? Their names are unknown in the field of nature protection and wilderness preservation.

The Park Service likes to tell about the visitor who drove up to headquarters in one of the big western National Parks and asked, "What are we supposed to do around here, look at the scenery?"

Holiday for Vandals

I remember one day driving south from Badwater, in Death Valley National Monument, California, when we noticed two cars parked by the roadside ahead. All occupants were out having a look at a rock formation that resembles a mushroom five feet high. This formation stands within ten or a dozen feet of the road on a little slope. One of the group was testing his strength by trying to tip it over. Just as we came around the turn and stopped, he held his hands braced under the edge of the cap, and was pushing upward. Fortunately, the name of the organization for which we worked was on our car door, and this brought the attempted vandalism to an abrupt halt. We gave the man a few of our thoughts.

One summer evening, on our way from Bear River National Wildlife Refuge, near Brigham City, Utah, to Grand Teton National Park, Wyoming, we stopped for the night at a national forest campground. We had eaten supper and were relaxing in the quiet of the magnificent scenery; no one else had arrived to disturb the peace. But then a car drove in with three girls, probably in their late 'teens. Catching sight of a chipmunk, all three picked up rocks and went in pursuit of the diminutive animal. No, they were not afraid of the chipmunk; they simply intended to kill it.

At Big Meadows Campground, in Shenandoah National Park, Virginia, some years ago, I remember one evening when a couple and their three- or four-year-old daughter were strolling past our camp site. The child clutched a bouquet of the rare white trillium. I stepped out to converse with the man and explained that wild flowers in National Parks are not to be picked but to be preserved so that all may enjoy seeing them. The man was so overcome with regret at his failure to realize this that he wanted to pay the National Park Service for his error. At my suggestion, the Service soon afterward placed a number of small signs in the area asking people to leave the flowers for others to enjoy.

In the same National Park, at an overlook along Skyline Drive, we pulled up to take a picture, and noticed a bus load of school children hurling pop bottles and stones over the cliff. The teachers paid no attention to this conduct, hardly appropriate in a National Park. I explained to the teachers why this behavior was wrong in a nature sanctuary and, in this instance, especially so because a trail passed below the cliff. The teachers brought the situation under control.

Of course, the rangers are authorized to educate visitors about how to behave in the parks and monuments, but there are far too few rangers in proportion to the hordes of visitors. However, I recall dropping in at the Old Faithful Ranger Station in Yellowstone National Park one day and happening to overhear a ranger talking to a father and son who had been throwing refuse or rocks into one of the park's thermal pools. The incident showed that the Service is alert and doing the best it can to protect park features against vandalism, but it is waging a losing battle because it is unable to reach more than a very few of the many thousands of visitors.

Educational Deterioration

Harry C. James of California, who in 1914 founded the boys' recreational organization, The Trailfinders, and later organized and served as headmaster of the Trailfinders School for Boys, in recent years has found efforts to educate school children, and even Boy Scouts, lacking a sound and fundamental basis. Writing in *National Wildlands News* for December, 1960, he deplored the 1959 edition of the Boy Scouts *Official Handbook*. He pointed out that it seemed unfortunate that an organization enjoying unparalleled prestige should have thought it necessary to include six and a half pages of advertisements for guns and ammunition and two and a half pages more giving the names of firms which offer rifles and pistols as prizes to their salesmen.

James found that so-called "conservation education" in the schools of California had deteriorated to the level of what might be more accurately called recreation education. This is generally true elsewhere, for there is little real teaching of what the late Aldo Leopold, in his *Sand County Almanic*, called "the conservation ethic." James discovered that firms manufacturing sporting equipment had invaded the schools with their own literature, designed primarily to stimulate youngsters to purchase their products. Apparently any resemblance to encouraging pupils to appreciate and to help preserve wilderness and protect nature is merely incidental if it occurs at all. This is not to imply that excellent courses in nature protection and appreciation are not given, but they are few.

A public lack of appreciation of nature and natural beauty is revealed in many ways—in the masses of rubbish discarded along trails and roads and at picnic areas and campgrounds, in the National Parks and monuments themselves, and in the state parks and wherever the outdoors is open to the general public. Insensitivity appears in the destruction of landscapes, much of which could be avoided through more careful planning by highway engineers, federal dam construction agencies, lumber and paper interests, real estate developers, and others too numerous to name.

The attitude of some people toward wildlife is one of complete disregard for the Golden Rule, which is as valid in the man-to-wildlife relationship as in the man-to-man relationship. Wildlife everywhere is disappearing, not only because of the destruction of habitat, but also because of the desire to kill for "sport" or for "predator control." The truth is that while wildlife habitat is being destroyed, often much of it needlessly in the name of "progress," guns, bows and arrows, traps, and poisons are coming into ever wider use. The manufacturers of these products lose no opportunity to win new buyers, and their advertising success depends to a large extent on public ignorance and prejudice. Youngsters are particularly susceptible to the notion emphasized by the arms and ammunition manufacturers that to carry and shoot a gun puts redder blood in the veins.

The urge to shoot and kill birds and mammals of the wild is receiving widespread encouragement on many fronts. I like John Muir's thought:

> Under proper training even the most savage boy will rise above the bloody flesh and sport business. . . . Godlike sympathy grows and thrives and spreads far beyond the teachings of churches and schools, where too often the mean, blinding, loveless doctrine is taught that animals have neither mind nor soul, have no rights that we are bound to respect, and were made only for man, to be . . . slaughtered or enslaved.

Muir urged, "More wild knowledge, less arithmetic and grammar, keeps alive the heart, nourishes youth's enthusiasms which in society die untimely. . . . Go to Nature's school—the one true university."

Recognizing the need for proper education in this field, H. G. Wells said, "Mere witless killing, which is called 'sport' today, would inevitably give place in a better educated world to a modification of the primitive instinct, and change it into an interest, not in the deaths, but in the lives of beasts, and lead to fresh, and perhaps beautiful attempts to befriend these pathetic kindred creatures we no longer fear as enemies."

It is a sad fact that in order to protect our vanishing wildlife, we first must kill it. The wildlife protective divisions of the several states derive their salaries and operating funds, or a large part of them, from the licenses of hunters. The agencies, therefore, not only pay attention to the wishes of the gunner organizations, but actually encourage public shooting.

Perils of Hunting

There are several national, privately operated wildlife organizations in the country, some of which have their headquarters in Washington, DC, where they keep in touch with Congress. While these groups are alert and often support beneficial legislation, too frequently they are concerned with the desires of the gunner rather than the welfare of wildlife, except insofar as saving wildlife will ensure a supply of live targets.

Marguerite A. Smelser of California, in a series of magazine and newspaper articles during the past five years, has brought to light the vast destruction of wildlife being carried on by the Predator and Rodent Control Branch of the US Fish and Wildlife Service and by state wildlife agencies. In *National Wildlands News* for March, 1961, she said that, under the pretext of "predator control," 29,228 wild predators were reported in California in 1959 as "taken"—the respectable word for "killed"—11,737 in Colorado; 42,909 in South Dakota (by bounties and government trappers); and

1,865 even in little New Jersey, which employs six trappers. Colorado supports 42 trappers, she says; California, in 1957, supported 87. Mrs. Smelser explains,

> And you, in addition to being made to pay millions of dollars every year for this slaughter, are being forced to pay more millions for the pseudo-biological propaganda to keep you sold on it, and still more millions for poisons to get rid of the rodents and insects which the predators, if left alive, would have helped to keep under control without cost.
>
> You should understand that the evil inherent in indiscriminate predator control is no longer a matter of doubt, and every competent authority has long known this. Only those not financially dependent on the racket have been willing to admit it.
>
> The scientific examination of thousands of wild animal stomachs, by the agencies that did the killing, has shown that the bulk of predators' diet consists of gophers, squirrels, rats, rabbits, insects, and carrion.
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> On the basis of this evidence, and as a result of field observations, honest men in state departments of fish and wildlife are trying to eliminate their own predator control programs; but they are hampered by their political bosses' collusion with officials of the US Fish and Wildlife Service's Predator and Rodent Control Branch and by legislators and certain influential sportsmen who, despite evidence, contend that predators decrease the sportsmen's supply of live targets.

As long ago as 1913, the late Dr. William T. Hornaday, in his *Our Vanishing Wildlife* said, "The number of armed men and boys who annually take the field in the United States in pursuit of birds and quadrupeds is enormous. People who do not shoot have no conception of it; and neither do they comprehend the mechanical perfection and fearful deadliness of the weapons used. This feature of the situation can hardly be realized until some aspect of it is actually seen." Since Dr. Hornaday wrote those words, two world wars have produced weapons of far greater deadliness, and the ranks of the gunning fraternity has increased by perhaps 20,000,000, while habitat and wildlife have steadily declined.

It must be clear to anyone that, until we produce a generation of men and women who understand what is at stake, additional hundreds of thousands of boys every year will join the ranks of the hunters' fraternity, and wildlife will continue to disappear despite efforts of state and federal agencies to save it. The proper training of our young people in schools and colleges along the lines suggested by John Muir entails a tremendous work; but before this can happen, teachers will have to be trained and leaders in education led to see the importance of including in school and college curriculums courses designed to produce intelligent and responsible citizens, ready to demand a halt to the destruction of habitat and to needless killing in the name of sport and predator control.

There are several national privately operated groups whose stated purpose is to preserve such areas as our National Parks, national nature monuments, and wilderness areas. In 1957, the Internal Revenue Service clamped down on the activities of these societies insofar as their freedom to influence federal legislation was concerned. This dealt a crippling blow to any former effectiveness they may have had. They all have tax-exempt status, and unless they are willing to give it up, they may not attempt to influence federal legislation beyond the minimal effort allowed under the IRS ruling. Who can speak vigorously, then, for sane and intelligent nature protection?

For our wilderness lands (what little remains on our once primeval continent) are truly at the mercy of industry, federal and state construction agencies, and the recreation and sport interests, with little real defense anywhere in the cause of nature protection and wilderness preservation.

The Warnings

Our exploding population and its concomitants—urban sprawl, water and air pollution, overcrowding of parks and beaches, and the loss of wild lands—has been the stimulus in recent years for a steadily growing mass of magazine articles and books. These publications give dire predictions about our future unless we take steps to control our population, as well as plan with utmost care our use of resources, including land.

Edward Higbee (*3*), for example, has provided an authoritative view of living conditions in the metropolitan United States. He warns about the haphazard spread of suburbia, which is cutting communities off from contact with nature and opportunity for adequate exercise and refreshment. He shows how, with increasing industrialism, people today are in greater need than ever of regular access to open space, and his chapter on "Parks and Playgrounds" points out that most people are willing to settle for less and less of the amenities that once were considered essential to good community life. Higbee says that welfare activity has largely replaced private conscience and private taste, and that playgrounds fare poorly at the hands of city budget makers. "In fact, as urban populations have tended to become predominantly poor-white and colored, other more privileged people have lost interest in the organism (the city) as a whole." He warns, in much the same tone as William Vogt (*5*), "The city, the state, or the nation which neglects the quality of its environment does so at great peril," and his reason for believing this is because "people respond with deep emotion and affection to what they see and admire. The citizen must see beauty if he is to love his country."

Lewis Herber (*2*), another among the few who see clearly the dangers that lie ahead, has produced a masterful book in *Our Synthetic Environment.* Deploring the difficulties involved in preventing the use of harmful food additives, Herber says that the same legislative procrastination is now being encountered in connection with environmental health problems. "Although air and water pollution has reached staggering proportions, national legislation to combat it is creeping forward at a snail's pace. At the same time, government-subsidized nuclear energy programs are creating one of the most hazardous sources of air and water pollution in man's environment." Dare we ignore Herber's warning that the needs of industrial plants are being placed before man's own need for clean air, that the disposal of industrial wastes has gained priority over the community's need for clean water, and that the most pernicious laws of the market place are given precedence over the most compelling laws of biology?

Fairfield Osborn, the distinguished executive of the New York Zoological Society, has continued his own dignified but vigorous effort to educate us in a time of great need by editing a remarkable volume of essays (*4*) under the title of *Our Crowded Planet.* The contribution by Joseph Wood Krutch grapples with the population issue, which, indeed, appears to be at the very heart of most human problems today. "No matter what fantastic increases technology may bring in the number of men the earth is able to support," says Krutch, "the limit must be reached sooner or later." He describes the spread of cities and the shrinkage of the country, and he points out that man becomes more and more imprisoned with his fellows in a world in which he has ceased to be even aware of many of the things of which he was once an intimate part. "Already he has pushed into extinction many of the creatures with which he once shared the earth."

But it is perhaps Rachel Carson's (*1*) very recent *Silent Spring* that may well deliver the *coup de grâce* to any lingering unconcern about man's relation to nature and his self-destructive current practices. Questioning man's attempt to control nature by means of poisons, Miss Carson announces that, for the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals from the moment of conception until death. And what about the birds and mammals, the plants, trees, and even the soil and water? The author leaves no doubt about what has been happening. In a single instance, among countless others, she explains that because irrigation water is pumped from surrounding ranches and farms into three adjoining national wildlife refuges, a build-up of pesticides is occurring in the refuges:

> In the summer of 1960, the refuge staff picked up hundreds of dead and dying birds at Tule Lake and Lower Klamath. . . . Upon analysis, they were found to contain insecticide residues identified as toxaphene, DDD, and DDT. Fish from the lakes were also found to contain insecticides; so did samples of plankton. The refuge manager believes that pesticide residues are now building up in the waters of these refuges, being conveyed there by return irrigation flow from heavily sprayed agricultural lands.

Too Late?

Years ago, Henry Fairfield Osborn, father of the editor of *Our Crowded Planet*, said, "The preservation of animal and plant life, and of the general beauty of nature, is one of the foremost duties of the men and women of today. It is an imperative duty, because it must be performed at once, for otherwise it will be too late."

Is it now too late? Has the progress of nature protection during the 90 years since establishment of our first National Park, Yellowstone, in 1872, been too little and too late? No. There still is time, but only if we begin now to help school and college students understand what our fate will be unless we make a prompt about-face. We should not overlook our responsibility also to the very young. This does not mean that we should necessarily try to make five- and ten-year-olds understand the threats from unplanned urban sprawl, the dangers to life from pollution, etc. What it does mean is that youngsters of that age are ripe for gaining a proper attitude toward all nature, including a sympathetic and knowledgeable sense of kinship with wild creatures as opposed to the fanatical idea that there is or can be fun in killing them.

In 1942, a National Park Service field employee met a soldier on leave, who came to Yosemite National Park to take a pack trip alone in the wilderness. The park official later wrote a little story about this soldier's trip, published in *National Parks Magazine* for December, 1942. The article concluded with this quotation from the soldier's description of his experience:

> The particular charm of this gulch trail to Washburn Lake is worth a hike over any mountain range. I lost altitude quickly here and swung along past cataracts and cascades that ended in quiet pools rimmed by maple and aspen. Then suddenly appeared Washburn Lake. It was quiet as a churchyard, and tiny wavelets lapped an oval, sandy beach. "Look closely, Starr," I whispered to myself. "What you are seeing now will add music to all you do through the years to come."

Most people have the ability to appreciate natural beauty, but unless they know from personal experience the pleasure of contact with nature, they are not going to become very much concerned with doing anything about saving it. The great need is to bring to youngsters and to college students an understanding and appreciation of the natural world. They must be awakened to see this world and to know how to enjoy it without harming it.

Sir Francis Younghusband, in his *The Heart of Nature*, said, "We owe it to ourselves and to mankind to give full rein to our instinctive love of natural beauty, and to train and refine every inclination and capacity we have for appreciating it till we are able to see all those finer glories of which we now discover only the first faint glow." I think Younghusband has touched on something extremely important. Indeed, unless all the wonder is to be stripped from this world which nature has made beautiful for our pleasure, we had better educate our increasingly urbanized younger generations by training them and refining in them every inclination and capacity they have for appreciating it until they are able to see all those finer glories of which they may now see only the first faint glow.

Those who have long recognized the urgency of this enterprise have often attempted to encourage educational leaders to include in school and college curricula courses in nature appreciation and preservation. Such efforts usually have been brushed aside with the excuse that schedules already are too full. Is there not a serious need for more educators and youth leaders and even parents to give greater thought to what is so vital to both the happiness of the individual and our national well-being? I believe the time has come for a careful examination of school curricula to determine the degree to which they are truly promoting a humane appreciation of natural beauty and an informed understanding of man's relation to his natural environment. Enmeshed as it is with the great issues of population growth, urban development, and technological change, conservation is not a sentimental concern with interesting holidays. It is an effort to preserve man's proud consciousness of himself as separate from the machine and as an integral part of the world of nature.

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Towards a conservation ethic

At the moment we deliberately place restraints upon our actions, we give up a morsel of freedom, and by this sacrifice we establish certain standards of behavior which we believe are conducive to desirable and civilized living. The limitations we place upon our behavior may result from purely pragmatic considerations like fear of punishment, or they may derive from economic or aesthetic considerations or from our personal or collective judgments as to what constitutes social or antisocial conduct.

This last possibility marks the beginnings of an ethical concept—an articulation of the values we hold and are ready to defend, especially as they relate to our behavior toward our fellow men. In this discussion, I should like to extend the concept of ethics so that it embraces not only human society but the entire biotic community.

Only yesterday, as we measure the total human enterprise, man emerged from the forest and, armed with the weapon of fire, began to clear the land around its edges and to cultivate his first crops. Somewhat later, he learned how to domesticate animals for his own use, either for food or for heavy labor. This gradual shift from man the hunter and food gatherer to man the pastoralist and food producer is sometimes called the Neolithic Revolution; it occurred only 10,000 to 12,000 years ago.

Stone Age Ecology

One can only speculate on what manner of man it was that emerged from the forest and how he regarded his world. We can be reasonably sure that in his long prehistory, when he was merely one of the many food gatherers and predators of the forest, his was a world of danger, discomfort, and violence. He must have observed it closely, and the fact that he survived indicates that he somehow adapted himself to its conditions.

Depending upon where he lived and upon the shifting climatic conditions, he must have regarded the sun itself as an all-powerful and mysterious object to be respected and feared or respected and loved. If there is validity in Thomas Carlyle's definition of religion—that it consists in what a man truly believes to be his relation with the mysterious universe about him—it is no wonder that man's earliest religious concepts centered about the sun and stars and the overpowering forces of nature, and that pantheism is common to both Greek and Norse mythology.

The whole body of pagan mythology reflected very definite attitudes and beliefs regarding the forces and phenomena of the natural world, benign and hostile. Personified, some natural events became identified with beneficent gods, others with malignant demons. From the early attitudes of love and fear came later beliefs about good and evil. But there was always a close and personal identification between these early men and the natural world which either smiled or threatened or was hugely indifferent.

Until the Neolithic Revolution occurred, prehistoric man exerted only a minor ecological influence upon his environment, although he had invented the bow and other crude wood and stone tools and weapons, and he undoubtedly knew how to make and control fire. As Marston Bates (*1*) has said,

> man must have acquired an extraordinarily detailed knowledge of the plants and animals among which he lived and undoubtedly entered into a wider variety of relations with other members of this biotic community than any animal ever has.

He further suggests, "that one of the first things he must have done was to build some kind of shelters," and when men began "making a very extensive system of shelters, a new process was involved—the clearing of the land." Now for the first time he really began to alter the nature of his relations with the biological community. He was no longer merely adjusting to his environment; he was starting to change it.

Most natural habitats, particularly forest habitats, are highly complex in structure. They contain a vast number of life forms, both plant and animal, all of which are interrelated and interdependent. In an undisturbed environment, the death rates and birth rates of individual species tend to remain in approximate balance, and the community remains relatively stable or achieves a condition of dynamic equilibrium. Communities of this sort are often referred to as "climax communities."

In contrast, man, by clearing the land, created what may be called an "open habitat," not at all a common condition in undisturbed biological communities. Once an open habitat is established, it is quickly occupied by a series of invading plants and associated animals, thus leading to a wholly different ecological balance.

Price of Open Habitats

As man began cultivating crops and breeding domestic animals, his attitude toward other plants and animals began to change. His cattle and sheep and domestic fowls needed protection, and their predators became enemies which had to be eliminated. Otherwise harmless rodents which fed on his crops were considered pests or vermin. Plants which competed for space, moisture, and sunlight with his grains were looked on as harmful weeds to be destroyed. In short, man tended to substitute ecological simplicity for ecological complexity, and this substitution has made the new and simplified biological community increasingly less stable.

Thus, although man has converted much of the world's land surface into an "open habitat" greatly to his immediate advantage, he has paid for it by rendering the total environment more brittle and more vulnerable to the erosive forces of wind and water and the ravages of insects and disease. Plant communities consisting of single crops like cotton, corn, sugar, or wheat are obviously more subject to attack by such specialized pests as the boll weevil, the corn borer, the sugar borer, and wheat rust than was the case in communities consisting of many diversified plants. This process of ecological simplification was in large measure inevitable, but its consequences were usually not foreseen or even considered.

Even today the farmer does not often think of his plow as the dangerous implement it is.

Until agriculture and husbandry developed, man's numbers were few and relatively constant, with his birth rate and death rate in approximate equilibrium. But from then on, owing to the additional food supply resulting from his increasing technical knowledge, his numbers started to climb, though he was still spread sparsely over the land.

Another crucial turning point in human affairs occurred when, about 5,000 years ago, man learned how to store and transport grains, a circumstance which made him less dependent on the food produced by his immediate environment. Now the human family began to congregate in large numbers and to build its first towns and cities and establish trade routes between them. Community living and travel permitted a far greater exchange of thought than had previously been the case and made it possible for man to rise intellectually and culturally. This great change is known as the Urban Revolution.

As the food supply became more abundant and more assured, human numbers increased still more steeply. Towns became cities, and the cities grew in size. Society became more cohesive and more systematized, and cooperative enterprise began to replace individual and family enterprise. But along with these physical and social improvements, came a gradual change in man's attitude toward his surroundings.

Neolithic man had been so closely associated with his natural environment that as E. A. Gutkind (*3*) put it, "nature and man, human and cosmic events, are merged into one, and man's experience is immediate and personal." As the Urban Revolution progressed, these bonds of intimacy between man and nature began to slacken, to fade, and to become increasingly less personal. Gutkind describes this as the transformation of an "I-Thou" into an "I-It" relationship, and this change in attitude has powerfully affected man's treatment of his earth home. The growing separation between the city dweller and the soil and the forest accounted for a growing indifference, on his part, to their condition and health.

Accompanying the Urban Revolution came new discoveries and inventions which gave man ever greater mastery over his environment and greater freedom to extend his range. With multiplying population came multiplying demands upon the earth's resources—food and fiber, timber and water, minerals and energy. As new methods and tools allowed him to harvest and extract resources more readily, the face of the earth began to change at a rapidly increasing rate.

The Industrial Revolution started about 200 years ago. Since then the changes man has wrought upon his environment far exceed the total impact he exerted upon it in all his previous history, reaching backward possibly for a million years.

Power and Cities

With the advent of the steam engine—and, later, the internal combustion engine—their new power enabled men to mine and harvest raw materials and to produce manufactured goods in quantities undreamed of before. It was a time, as Oliver Goldsmith sadly wrote in *The Deserted Village*, when "Wealth accumulates and men decay." The villages were deserted, but the new factory towns were coming into their own, and the accumulation of wealth and the emergence of an aggressive and imaginative merchant class was making possible what Barbara Ward (*8*) describes as, the enormous expansion in techniques and technologies to which savings could be applied. Out of this massive "primitive accumulation" came what one might call the breakthrough of a new type of economy where, with fresh capital applied to all processes of production, the expansion of each helped the expansion of all with a sort of internal momentum which finally put the economy into orbit as the new type of advanced, capitalized, industrialized, technological society that we see around us in the West today.

Each of the earlier revolutions contributed to man's safety and comfort and to a net increase in available resources and to a diminishing of conditions inimical to human survival and reproduction. Thus, there was a gradually accelerating but undramatic increase in population until the onset of the Industrial Revolution.

Beginning about 1775 with the discoveries of Jenner, and considerably later with those of Pasteur and Lister, a new type of revolution in human affairs, a Medical Revolution, gathered headway. Penicillin, only recently discovered, and our newer "miracle drugs" and many types of antibiotics and biocides, such as DDT, are clear indications that the Medical Revolution is still gaining momentum. With the resulting drastically reduced human death rates, and with no equivalent decrease in birth rates, the human family is now literally exploding.

Modern demographers estimate that at the beginning of the Christian era, the earth's human population was about 250 million. It took until 1650 or approximately 16½ centuries to double in size, but by 1850, or in only 200 years, it doubled again. Eighty years later, in 1930, the world population had again doubled. Today, 33 years later, another *billion* people have been added to the world's numbers, bringing the total to more than three billion. If the present rate continues, that number will again be doubled in only 40 or 50 years. Clearly, this rocketing increase in population is a very recent phenomenon which neither man himself nor the environment which sustains him has ever been called upon to cope with before.

It may be somewhat arbitrary to suggest that we are now in the early stages of a new Scientific Revolution in which technical breakthroughs in many areas of science are following fast on the heels of atomic fission and fusion. One may consider this development merely an extension of the Industrial Revolution. In either case, all the earlier revolutions have combined and are now merged into one. But before we rush into the future at supersonic speed, we had best take a good hard look at the changes we have already made in our environment and pause for a moment to consider certain attitudes toward the natural world which have allowed us to behave as we have.

North American Riches

As it happens, no landscape illustrates more dramatically the tremendous changes man has wrought upon it than ours in North America. This land mass (and the oceans which bound it) was probably the most highly favored area of comparable size on the planet with respect to natural resources. No other continent possessed more extensive or magnificent forests; with the exception of Africa, no other continent was blessed with such varied or numerous wildlife. Its great grassland prairies were unrivalled in extent and richness, and with the exception of its southwestern segment, the abundance of its fresh water supplies was unsurpassed. The oceans on both coasts teemed with fish, including shell fish, which in numbers, variety, and excellence occurred in no other waters bounding other continents. The mineral wealth of North America, including coal and petroleum, was practically boundless, or so it seemed to the descendants of those early settlers when later exploration uncovered them. And in the temperate areas lying south of the 60th parallel was one of the world's two largest and most fertile black soil areas (the other being in southern Russia).

The native Indian population, which has been estimated at between two and three million, had exerted little unfavorable influence on the land and its flora and fauna. But the white man, making his entrance at about the time when Shakespeare was composing his plays and the King James edition of the Bible was being prepared, became a disrupting ecological factor.

The very size and abundance of the new land evoked in the early settlers an attitude of raw carelessness regarding its treatment and exploitation. There was simply no need now to conserve the new riches. Everything seemed limitless—forests, prairie, wildlife, and water.

Most of us are familiar with the history of the continent's exploitation: how the frontier was pushed ever westward, how the forests were slashed and burned, how wildlife was slaughtered, how the grasslands were broken to the plow, and how the ranges were murderously overgrazed by sheep and cattle. There was no thought of the serious erosion, the dust bowls, and the destructive floods that would follow these practices as night follows day.

The concept that American natural resources could be overworked or abused, or that the abuse of one resource could set off a whole chain of evil consequences involving other resources, did not emerge until very recently. Even today it is appreciated by only a fraction of our population. The attitude that whatever a man did with his own land was his own business was powerfully felt and universally accepted. And why not? There was plenty of room for everyone and always more land to the west if it was needed.

But two forces were gradually set in motion that were eventually to render these frontier attitudes obsolete: our rapidly expanding numbers, and the drift from an agricultural economy toward an industrial economy. In 1800, there was only one city in the United States with a population of more than 50,000 and only two others with more than 25,000. Of the nation's five million people, there was only one city dweller to every 15 rural inhabitants. By 1850, the set of the tide was unmistakable. The population had risen to 24 million, and there were three city dwellers for every 15 in the country. By 1900, the tide was running fiercely: 26 million people, three cities with over one million inhabitants, 35 others with more than one hundred thousand, and 14 people in cities for every 15 in the country. Still the industrial giant called more and more hands to its forges and factories, its stores and offices, while mechanized farm machinery and lumbering operations produced more crops and wood products with ever fewer hands. Today there are more than 188 million Americans, and seven of us live in cities for every three that are left in the country.

Tax on Context

The mounting tax we are levying upon our environment is not to be measured just by the vast quantities of materials we extract and consume, for the methods by which we have been obtaining and refining them have affected the fundamental health of the land, the sea, and the air. The disposal of human wastes is a problem dating back to the Urban Revolution, the disposal of industrial wastes to the Industrial Revolution. With our multiplying human numbers and the growing concentration of industry and people in cities, the sources of poison and pollution are becoming more centralized and more unmanageable.

The widespread and growing use of poisonous pesticides and the disposal of atomic debris are presenting us with new and formidable problems of atmospheric, water, and soil contamination which are by no means fully understood. In these two cases, we literally do not know what we are doing to our environment. As Bruce Wright (*9*) has said, "Application of pesticides is ten years ahead of research on their side effects." Obviously, in these instances, technology has far outstripped our ecological understanding.

The rivers of a great industrial nation can never again run clear and pure as they did in their pristine state. This we cannot expect, but do we have to endure the degree of pollution we now have? The Penobscot drains one-third of the state of Maine. Once it supported great runs of Atlantic salmon and shad. Today it is an open sewer into which the cities of Bangor, Orono, Millinocket, and Brewer pour untreated sewage and innumerable mills and factories dump their poisonous effluents and chemicals. The river carries these contaminants down to Penobscot Bay, ruining a once flourishing shell fish industry. Today, 80,000 acres of clam flats are closed on the Maine coast.

But it is not the Penobscot alone; all the great rivers are heavily polluted: in the North, the St. Croix, the Kennebec, the Androscoggin; in the East, the Connecticut, the Hudson, the Delaware, the Susquehanna, the Schuylkill, and the Potomac; in the South, the Mississippi, the Red, the Alabama, and the Savannah; in the West, the Columbia, the Sacramento, and the Colorado. Nor have the Great Lakes escaped nor the seas themselves, not to mention their beaches, close to harbor cities.

And what of the air? Or this excellent canopy, the sky? Smog over Los Angeles, smog over San Francisco, smog over the Ohio Valley, over Cleveland, Chicago, New York, and Philadelphia!

No one planned to poison the air; no one planned to poison the water; no one planned to lose our precious topsoil to the wind or to send it helter-skelter down river; yet this has happened. A hundred years ago no one anticipated that there would be 60,000,000 automobiles and trucks crowding the highways, each contributing its part to fouling the atmosphere. No one anticipated the nature of the chemical effluents that would be pouring into our streams from mills and factories. No one anticipated the explosion of our numbers or the steady drift of population from the country to the cities. No one anticipated the vast megalopolis extending from Portland, Maine, to Richmond, Virginia, or that Los Angeles would become the octopus-like center of another huge development, reaching its tentacles north towards San Francisco and south to San Diego, while a third megalopolis is a-building in the Ohio Valley.

Biotic Unity

Can we, today, gauge the future with greater accuracy than our forebears did a century ago? In many ways we can. Although our knowledge is far from complete, we know infinitely more about the sciences of agriculture, forestry, hydrology, and—more recently—ecology. As a result, we should have a far greater foreknowledge of the consequences to our environment of our behavior.

But if the science of ecology can be said to have one basic premise, it is the premise that the biotic world is a single community, that the land is *one* organism of enormous complexity.

Pierre Teilhard de Chardin (7) carries this concept of unity a telling step forward. By including the entire inorganic world in what he terms "the irreversible coherence of all that exists," he sums up this notion with remarkable and imaginative words:

> The last molecule is, in nature and position, a function of the whole sidereal process, and the least of the protozoa is structurally so knit into the web of life that, such is the hypothesis, its existence cannot be annihilated without, *ipso facto*, undoing the whole network of the biosphere.

This is a humbling thought, suggesting that man endures as only one interdependent unit in a system of awesome complexity and precision. If one accepts this concept, then the inescapable conclusion follows that man cannot stand aloof and alone from the rest of the natural world and from the moral principle that he should not attempt to manipulate the biotic community without understanding the far reaching ecological effects of his behavior.

Paul Sears (*6*) hits hard and shrewdly in saying,

> Unlike the knowledge that comes from discoveries in other fields of knowledge, ecological understanding cannot be made available in the market place. It must be built by general understanding into the wisdom of the race.

Unfortunately, such understanding is not commonly shared by "the man in the street," and yet it is the man in the street —the teacher, the industrialist, the banker, the congressman, the city planner, the engineer, the advertiser, and the building developer—any one of whom may be president of his local chamber of commerce, who is actually making the controlling decisions which shape and alter the landscape.

Up to now, these decisions have produced two diametrically opposing results. They have given Americans the highest levels of *material* prosperity ever to be achieved by any people in this world, and they have also profoundly *degraded* our environment. Twenty centuries of "progress" have brought the average citizen a vote, a national anthem, a Ford, and a high opinion of himself, as Aldo Leopold at one time pointed out, but not the capacity to live in high density without befouling and denuding his environment. Nor has he the conviction that such a capacity, rather than mere density, is the true test of whether he is *civilized.*

No creature, including man, remains unaffected by the condition of its environment. Ugliness, blight, congestion, and noise affect the health of the spirit as surely as contaminated air and water affect the health of the body. None of us who have reached even middle life can fail to have noticed a steady erosion of the values which make for contentment and satisfaction in man's relation to man.

In spite of enormous cultural and economic advantages and opportunities, the growing impersonality of life in our overcrowded cities, even in the huge apartment houses where so many of us live, has resulted in a loss of neighborliness and even of common courtesy. Mounting tensions and pressures are unhappily reflected in the appalling increase in the numbers of emotionally and mentally disturbed persons being treated in our psychiatric clinics. The mass flight of families to the suburbs is essentially a flight of desperation, an attempt to escape the inhuman and intolerable conditions of modern urban living.

Human Isolation

One cannot escape the disquieting notion that of late we have become so isolated from the natural world, with our gadgetry and mechanization, that we have dulled our capacity for wonder and reverence, our sensitivity to grandeur and beauty. If this has happened at all, it has happened very recently; part of our heritage, these attitudes run through literature and art from pre-Christian times onward.

No one pondered the mysteries of nature more profoundly or more humbly than David, the Psalmist: "When I consider Thy heavens and the stars which Thou has ordained, what is man that Thou art mindful of him or the son of man that Thou visitest him?" And there is always the feeling of awe before these mighty forces: "And the voice of Thy thunder was in heaven, Thy lightening lighted the world. The earth trembled and was afraid." To David the mystery was unending: "Thy way is in the sea and Thy path in the great waters, and Thy footsteps are not known." And where would a man such as David turn when he felt the desperate need for inner tranquility and peace? "I will lift up mine eyes unto the hills whence cometh my help."

It was the wilderness and the mountains to which he turned in times of trouble when he needed to recreate his thoughts and spirit. We call it *re*creation, and it will be a dreadful day for us when we too seek the wilderness to find inner peace only to discover there is no wilderness left.

Space is the one natural resource for which there is and can be no substitute, and in spite of our original vast endowment in this regard, we are pressing hard and ever harder against what open space remains. In 1962 more than 80 million persons visited our National Parks. Each year there are more such visitors. Mounting human pressure such as this, unbelievable only a few years ago, cannot fail to change their superb primitive character.

Privacy and periods of solitude and silence are necessary to refresh battered and jaded nerves and to nourish the creative impulse. Outboard motors and water skiis are not. But privacy is fast becoming an expensive luxury, and solitude is increasingly difficult to come by.

The time has now come to pose ultimate questions: Will the world of tomorrow present a fairer face, or will urban and rural slums continue to spread their blight? Will the total environment of earth, air, and water suffer from further spoilage and poison, or will improved land practice prevail and the general process of contamination be halted and reversed? I think affirmative answers depend on three propositions.

First, the prevailing imbalance between human birth rates and death rates must be redressed. Biologically speaking, the human race is not only recklessly breaking the maximum speed limit, but it seems to be completely out of control. When biological resistances exceed resources, a condition arises which *insures* a reduction in the size of population. "To this basic biological principle," Dr. Stanley Cain (2) has remarked, "there are no known exceptions. At some point in time, for a population of some size, the inexorable forces of nature will operate to check this population growth and then to stop it."

As the operation of these "inexorable forces of nature" is not likely to be conducive to human wellbeing and happiness, one must hope that mankind will, of its own volition, apply the brakes in time. Here there are appalling difficulties —of education, of cultural and religious prejudice, of economic feasibility, and of the general availability of safe and sure contraceptive devices.

Ecology and Population

Yet the air is beginning to stir. The subject of birth control, so long taboo, is no longer being swept under the rug; it is being widely and seriously discussed. During the last few years in this country, the studies carried out by such agencies as the Population Council, the Population References Bureau, and the Planned Parenthood Association are reaching a much broader public than heretofore. The studies undertaken by UN organizations are hopeful manifestations of increasing public concern. Medical progress toward devising the "perfect pill" is also encouraging.

The notable reduction for example, in the Japanese birth rate since the end of the Second World War is a striking illustration of what can be accomplished if the intelligence and the will are there to accomplish it. But Japan represents less than three per cent of the world population, whereas the situation in Asia, Oceania, Africa, and Latin America, which together account for almost 70 per cent of mankind, is already desperate and is fast becoming hopeless. Taken as a whole, the world outlook for a redress of the present imbalance between birth rates and death rates is very somber.

In America the prospect is somewhat more encouraging. Because our habitable land area is so large and our resources so abundant, we still have some margin of time to correct the imbalance before our situation becomes as unmanageable as now appears to be the case in such countries as India, China, and Egypt.

Second, ecological understanding must, as Sears (*6*) expressed it, "be built, by general understanding, into the wisdom of the race." Since it is not available in the market place, and since today the average citizen is, ecologically speaking, appallingly illiterate, the only place this illiteracy can be dispelled is in our public and private educational systems. A vigorous start has been made with noticeably improved curricula and teacher-training programs, but it will require at least another decade of intensive and disciplined effort on the part of the curriculum committees of the nation and the provision of better teaching materials before American children will be receiving adequate instruction in this field. It will take considerably more than another decade before those children will have their hands on the controls and can begin to apply their growing knowledge as mature and effective citizens. The outlook for improved ecological literacy, though still unassured, seems to be distinctly hopeful.

Third, certain powerfully felt and deeply ingrained social attitudes which have adversely affected the land must yield to more congenial ones. If ecological ignorance is the root of our "unproud record of land abuse," human arrogance has played a strong supporting role.

The Judeo-Christian belief that the earth was the center of the universe and that man, cast in the image of God, was given dominion over all the earth, has profoundly affected Western attitudes toward the natural world. Noah and his sons were charged to fill the earth and subdue it. "And the fear of you and the dread of you shall be upon every beast of the earth and upon every fowl of the air, upon all that moveth upon the earth, and upon the fishes of the sea; into your hands they are delivered."

Ethic of the Land

Surely the creatures of earth have had ample cause to fear and dread mankind, and there was nothing in the charge to

Noah and his sons to suggest attitudes of understanding, humility, kinship, and love between them and the rest of creation. Yet I submit that these attitudes are essential to any state of harmony between men and land, including all things on, over, or in the earth. I further submit that no conservation ethic can be forged without them.

Aldo Leopold says in *A Sand County Almanac* (4) that a land ethic "changes the role of *homo sapiens* from a conqueror of the land community to a plain member and citizen of it. It implies respect for his fellow members and also respect for the community as such." He continues,

> In human history we have learned (I hope) that the conqueror role is eventually self-defeating. Why? Because it is implicit in such a role that the conqueror knows, *ex cathedra,* just what makes the community clock tick, and just what and who is valuable, and what and who is worthless, in community life. It always turns out that he knows neither, and this is why his conquests eventually defeat themselves.

In our society, the man in the street long ago accepted the *political* principle of "plain citizenship," but he has not yet extended that acceptance to the biological community. The day he does, he will have exchanged the role of conqueror for that of the good steward, and he will also have taken a giant step forward in his approach toward a conservation ethic.

Another built-in American social attitude, that a landowner has the unreserved right to do whatever he pleases with his own property, although somewhat modified by local zoning restrictions, still persists as a basic principle of our national philosophy. There are no federal regulations governing the use of privately owned land here comparable to the national forestry laws of Denmark, Sweden, and Norway, nor to the provisions of the British Agricultural Act of 1947, which provides penalties (including expropriation) against owners of agricultural lands who do not manage them in accordance with the best practices. Generally speaking, our government tries to influence the individual's use of his forest and agricultural land by technical assistance and by various financial inducements.

When Leopold (4) commented that "there is yet no ethic dealing with man's relationship to the land and the animals and plants which grow upon it; the land relation is strictly economic, entailing privileges but not obligations," he was inveighing not against valid long-range economic considerations, but against immediate and hurtful "commercial" considerations. His quarrel was not with the profit motive, *per se,* but only with its ruthless domination over all other considerations—the average American's determination to make a quick buck without any regard to the health of the environment.

Though I should like to think otherwise, the ugly scars on the American landscape constitute irrefutable evidence of our national worship of the dollar. "Perhaps modern materialism is the new face of the barbarism with which civilization always has to contend. How else can we explain that we are making cesspools out of our rivers, and are unable to provide healthful and aesthetic living space in our cities, and that wilderness everywhere tends to collapse beneath the blades of the bulldozer?" asks Stanley Cain (2). How else indeed can it be explained?

I should not like to see increasingly stringent social controls applied to private land use in America, but if the "unreserved right" attitude continues without an accompanying growth of individual conscience, I suspect we shall have more and not less of them in the future.

To Crowd and Be Kind

The problems of effectively reducing air and water pollution across the nation, of providing open space for our metropolitan complexes, and adequate wilderness for recreation and wildlife for today and tomorrow have not by any means been solved. These are problems clearly associated with population growth, industrialization, and urbanization, and they are here to stay. We shall never desert our cities or return to the agricultural economy of the last century. For better or worse, we shall continue to live in a crowded and mechanized world. But we do not *have* to live in a land of diminishing beauty and increasing ugliness, of increasingly polluted air and polluted water, of shrinking space for recreation and wildlife.

Lewis Mumford, (*5*) it seems to me, has reached the heart of the matter in using some plain, old-fashioned words:

> Of every invention, of every organization, of every fresh political or economic proposal, we must dare to demand: Has it been conceived in love and does it further the purposes of love? . . . Much of what we do would not survive such a question.

When at last we are prepared to ask this question and demand an affirmative answer before giving consent, we shall successfully have ended our search for a conservation ethic.

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Contributors

There is a tendency to look upon the conservation movement as a sentimental effort to retain the spirit of a bygone day, a pleasant but unimportant attempt to preserve a few vacation spots for skiers and fishermen and to encourage an equally pleasant but unimportant attitude toward birds and trees. It isn't. We live in a time when our great cognitive gifts have brought us to material comforts undreamt of by our forebears, but our arrogance has concurrently brought us to the brink of destroying that sense of ourselves as marvelous animals out of which grow both our ethical impulse and our feeling for life as something grand and precious. It is this concept of ourselves as living organisms, inevitably based in a natural environment, with which conservation is concerned. As a matter of fundamental importance, it is discussed for the *Record* this month by **Hal Borland**, author and member of the editorial staff for the Sunday New York *Times*; **Devereux Butcher**, editor of *National Wildlands News* of Washington, D.C., and **George Brewer**, executive officer of the Conservation Foundation. Hopefully, their wisdom will permit a more creative approach to our natural habitat and our attitudes toward it in this new year of 1963.

Creative approaches to problems of all sorts is also the subject of **Sidney J. Parnes**, who has been actively concerned at the University of Buffalo with the cultivation of creativity through the college classroom. His instructional experience and his research should provide all of us with a more knowledgeable and optimistic basis for thinking about the improvement of inventiveness in students.

Similarly, since we think often (if a bit erroneously) about art as the natural field for the expression of creativity, we should have our horizons rolled helpfully back by the observations of **Thomas Munro**, director of education for the Cleveland Museum of Art, on "The Phychology of Art." His remarks seem especially provocative when he discusses the school as a natural laboratory for the study of artistic development on both the producing and appreciative sides.

Appreciation, which is simply a word for informed criticism, depends, of course, on trained perception, and perceptual skills are as relevant to political phenomena as to artistic. Since the publication a decade ago of *The New Man in Soviet Psychology*, **Raymond A. Bauer**, now at the Harvard School of Business, has maintained a reputation as the psychologist most insightfully educated in Russian-American relationships. He discusses for us this January the factors which facilitate and inhibit our perceiving international affairs in accurate or distorted ways, challenging us as perceivers to use our perceptual equipment hardheadedly and realistically.

Perceptual distortions probably have few field days like those afforded by discussions of sex education. **Phyllis** and **Eberhard Kronhausen**, who have published widely in this domain, contribute a provocative piece this month, outlining an integrated program of sex education to cut across curricular lines. More importantly, they ask us to think seriously and courageously about a natural impulse that we more avoid than neglect in the educational enterprise.

Finally, **Paul W. F. Witt**, a member of the faculty at Teachers College, Columbia University, and a leader in audio-visual education, assesses recent developments in AV as reflected in a batch of recent books in the field.

And a happy New Year to all!

RAYMOND A. BAUER
Harvard University

Accuracy of perception in international relations

IT IS REPUTED THAT in the nineteenth century some person, a forerunner of twentieth-century social psychology, said to one European statesman of another: "I think you and he should get to understand each other." The reputed rejoinder to this reputed injunction was, "Oh, he and I understand each other perfectly; the only trouble is that we both want the same thing."

Recently, the question of better communications with the Soviet Union was raised with President Kennedy at a press conference. He replied very much in the vein of the nineteenth century statesman, saying, "We have communications with the Soviet Union. I think the problem is not at the present time communications. The problem is that there is a difference of viewpoint. We understand each other."[1]

It is unfortunately characteristic of political life that there are in fact zero-sum games in which one player's gain can be made only at the expense of the other player's equal loss. Psychologists, however, are generally indisposed to acknowledging genuine conflicts of interests. In the examples cited here, the typical psychologist would have been concerned with the problems of "understanding" and "communications." A sympathetic critic would probably contend that the psychologist's contact with neurotic behavior and with neurotic mechanisms in otherwise normal people makes him especially sensitive to the needless conflict that does in fact exist because of misunderstanding. In fact, it can well be argued that the psychologist's distinctive contribution to human welfare may well be the reduction of conflict which stems from distorted perception.

It is in this spirit that I would like to discuss some sources of malperception which may in fact get in the way of reducing tension between the United States and the Soviet Union. But I would preface this discussion with a perhaps self-conscious acknowledgment of the existence of genuine conflicts of interests among nations, and specifically of some specific conflicts of interest between the US and Russia. It seems to be generally acknowledged, however, that the nature of modern weapons systems makes certain aspects of our conflict "non-zero sum," *i.e.*, neither party can hope to gain at the other's cost, but both must lose. There is every reason to believe that both parties are looking for a way out of major aspects of the present situation of tension, at least to the extent of reducing the threat of a nuclear war and the burden of a full-scale armaments race. Under these circumstances there is something to be said for "understanding," and an attempt will be made to do just that.

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[1] Press conference of 23 July, 1962, as reported in the New York *Times* the following day.

Perceptual Distortion

Erich Fromm (*5*) has recently discussed four types of thinking which interfere with the proper conduct of international affairs. He calls these sources of perceptual distortion "paranoid," "projective," "fanatical," and "automaton" thinking. While his treatment of each is interesting and stimulating, a consideration of just one of these modes of distortion, so-called "paranoid" thinking, will serve as an adequate point of departure for discussing some features of American-Soviet relations.

Fromm's description of "paranoid" thinking is valuable. Taking pathological conditions as a point of departure, he says of the paranoid patient, "For him, reality is based on logical possibility, not on probability. This attitude is exactly the basis of his illness." He then continues,

> But to recognize paranoid thinking when it is shared by millions of other people and approved by the authorities who lead them, is more difficult. A case in point is the conventional thinking about Russia. Most Americans today think about Russia in a paranoid fashion; namely, they ask what is *possible* rather than what is *probable*. Indeed, it is possible that Khrushchev wants to conquer us by force. It is possible that he makes peace proposals in order to make us unaware of the danger. It is possible that his whole argument with the Chinese Communists about coexistence is nothing but a trick to make us believe that he wants peace in order to all the better surprise us. If we think only of *possibilities*, then indeed there is no chance for realistic and sensible political action.
>
> *Sane* thinking means not only to think of possibilities, which in fact are always relatively easy to recognize, but to think also of probabilities. That means to examine the realistic situations, and to predict to some extent an opponent's probable action by means of an analysis of all the factors and motivations that influence his behavior. To make this point perfectly clear, I want to state that my emphasis on sane versus paranoid thinking does not imply a judgment that the Russians *might* not have all the sinister and deceptive plans just mentioned. Instead, it insists we must conduct a thorough and dispassionate examination of the facts and that logical possibility as such proves nothing and means little.

This extended quotation is particularly valuable in highlighting the emphasis Americans put on Soviet intentions and on possibilities as compared to probabilities. Were Fromm to turn his attention to the matter, he would agree that the same elements feature Soviet thinking about the United States.[2] Perhaps some caution is in order as to the extent of generalization that is warranted. Let me state conservatively that Fromm has described accurately some elements which play a conspicuous role in the way American and Soviet observers think about each other. (I am trying to avoid the untenable position of characterizing all American and Soviet thinking by one formula, in part at least because I want later to show where and how this thinking can be or has broken down.)

In place of Fromm's clinical notion of "pathology," I should like to substitute a social psychological functional analysis which treats this thinking as inherent in the situation of conflict between the US and Russia. I shall speculate on the origins of this sort of thinking, the functions it serves, the conditions which reinforce it, and some conditions which are serving to break it down. Without deprecating Fromm's clinical background as a source of insight into international affairs, I have grave reservations about letting the matter rest with the implication that the issue is one of individual pathology. This gives us no understanding of its origins and little leverage on changing it.

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[2] "Paranoid" aspects of Soviet thinking about foreign affairs have been treated by many Western writers. In general, this "paranoid" thinking has been linked to specific elements of Soviet and Russian history and culture rather than to such generalized factors as are considered here. For a recent articulate statement of this element in Soviet thinking see Urie Bronfenbrenner (*3*).

Strategy and Perception

Metternich is said to have reacted to the death of a Russian ambassador by musing, "I wonder what he meant by that."

Observation of the formation of mutual images between two competing groups leads to the thankless proposition that the process of social perception may be even more complex than we have thought. Each group attributes to the other rationality, power, resources, coordination, and competence that it knows is impossible in its own situation.

A few years ago, several of us studied the passage of the Reciprocal Trade Act in the 1954 and 1955 sessions of Congress (*2*). As an integral part of this study we kept contact with the interest groups on both sides of the controversy. The power and effectiveness of pressure groups in American politics is one of the established self-evident truths—except, in this instance, it depended on one's perspective. When we observed a pressure group directly, we usually found that it was moderately but not excessively competent, and certainly far from omnipotent. Let a spokesman for either side speak, however, and it became clear that the *other* side was indeed omnipotent. It made no difference to whom we were talking. The picture we would get was something like this: "Look. Here we are, a bunch of amateurs, armed with a mimeograph machine, while they have all sorts of money, are well organized, and have hired a crew of lawyers and professional public relations men."

We developed the suspicion that the image of pressure groups in American politics has not been based upon direct observation of their activities, but rather upon taking at face value what each party has to say about the other. What has this to do with the United States and Russia? Just this: Essentially the same process takes place in the interaction of these two great powers. The image of the other is creatively fashioned so as to be consonant with one's strategic objectives.

How many of you have tried the hopeless task of convincing a Soviet citizen that every bellicose statement by an American general, admiral, or politician does not necessarily represent national policy? It is easy to sympathize with the Soviet observer of the American scene. He could scarcely bring himself to believe that American politics are really the shambles that we often know them to be. But it is half comic and half tragic to see some blundering bit of American policy attributed to the subtle machinations of "Wall Street."

A major dangerous misconception held by Soviet observers has to do with the power of the "ruling clique" in the United States. It is virtually impossible to convince even the most sophisticated of Soviet citizens of the constraints which the rank-and-file citizenry exercise on American policy. I base this statement not on Soviet writings, which may reflect a myth which no one believes, but on my personal experience and that of other persons who have had direct contact with Soviet citizens.

Part of this over-rationalization of the other party's behavior stems, as will be discussed shortly, from the theoretical models each party has employed. But at this point another feature of the situation—the one that led Metternich to query the intention of the Russian ambassador in dropping dead—is more pertinent. In a situation of conflict it makes sense to *assume* that the other party is acting "rationally," meaning simply that he has some deliberate intention relative to our competitive relationship. Thus, we do not deny the possibility that Khruschchev may have a legitimate toothache, or that he may simply have merely lost his temper when he banged the desk with his shoe in the United Nations. Our main concern, however, is with what these events may mean *in competitive terms*. This is the conservative assumption of game theory: One should act as though the opponent is acting optimally.

Assuming and Perceiving

All of this is a very reasonable way of reacting to a competitive situation *if* it is explicit that this is what is being done. The insidious difficulty is that this process of adopting an optimal strategic assumption gets confused with one's perception of the situation. For example, I listened to one Soviet expert criticize the book of another. He said at the beginning, "I don't agree with Joe." After thirty minutes of talking, it became obvious that he did not disagree with "Joe's" description of Soviet reality or "Joe's" predictions of probable developments. Instead, he thought that "Joe's" predictions were dangerous *assumptions* on which to base American policy. In Fromm's language, he was more concerned with the possible than with the probable. He was concerned with the *possible* because of strategic considerations, but he did not recognize that strategy-setting and accuracy of perception are two separate functions.

Having had the above experience, I was able to make sense out of many arguments I had had with military friends. I was often confronted with the statement, "But, you know perfectly well the Russians will attack us as soon as they have a military advantage." Being a pedant, I was unwilling to say I *knew* this. I was willing to base policy on that assumption because of the extremely high payoff involved if it were true. But my friends pushed me to agree that this was an accurate description of the real world. This, being perhaps needlessly stubborn, I would not do.

These experiences represent an aspect of what happens between two competing large powers. Convenient strategic assumptions become confused with descriptions of the other party's behavior and intention. In no time at all, our image of the other party exaggerates his rationality, power, and malevolence.

Presumably, the foregoing processes are what lie behind Fromm's observation that our thinking about the Russians (and their thinking about us) features the *possible* rather than the *probable*. In strategy-setting, the *possible* is often more important than the *most probable*. But strategy-setting interferes with accuracy of perception. In terms of decision theory, our concern over the magnitude of the payoff interacts with our perception of the probabilities. Fromm correctly observes that the confusion of the two leads to perceptual distortion. In fact, this confusion probably also leads to poor strategy-setting.

This confusion of strategy-setting with perception is preserved on the individual level by the phenomenon which has become known as dissonance reduction. Apparently, most of us find it a source of strain to act on an assumption that we do not believe is the most probable state of affairs. Accordingly, we "adjust" our perception to bring the probabilities into line with the possibilities.

On the group level, Fromm observes one of the consequences of this quasi-paranoid thinking: "The result is the narcissistic and unrealistic picture of the West as the fighter for good, for freedom, and for humanity, and of communism as the enemy of all that is human and decent." The reverse is true of the Soviet image of capitalistic America. But it cannot be said that these distortions are without a function for the groups involved. Obviously, they reduce the moral conflict involved in complex judgments, and they facilitate the efforts of the leadership on both sides to mobilize their populaces behind their policies. Fromm does not mention, and almost certainly would be impatient with, these functions of what he calls paranoid thinking. But the opportunity for change lies only in frankly acknowledging them.

Such factors, facilitating schematic thinking in each group about the other, seem inherent in the strategic situation of two groups in conflict. There are still further elements reinforcing this tendency which are somewhat more specific to the Soviet-American situation.

Theories: Aids and Barriers

In approaching such a complex phenomenon as a nation-state, one would be completely helpless unless he had some general theory or organizing model. The perennial man from Mars might well be struck by the similarities between the Soviet Union and the United States, particularly when contrasted with Martian society. But Soviet society arose in opposition to something called capitalism, a category of a sort to which American society might tentatively be assigned. Thus, the American approaches the Soviet Union with a generalized model of "totalitarian communism," and the Soviet scholar sees the United States as an example of "monopolistic capitalism." Whether or not the labels or models applied to either society are accurate, they were generated initially under the assumption that the two societies were different, and they are drawn so as to emphasize the distinctions. Furthermore, under the conditions that obtain, there are forces at work to preserve the original models and to emphasize the differences between the two systems.

Admittedly, without some such models we would not know how to begin to order our data. They enable us to set up criteria for change, since in an ever-changing world one cannot differentiate between trivial and essential changes except with respect to some generalized model. Where then do things go wrong?

First of all, the models have a lag built into them. The Soviet model of the United States is constructed to a large extent out of data from nineteenth-century England and the American depression of the 'thirties. Our model of the Soviet order is based on Stalin's era. It is further shaped by attempts to fit Nazi Germany, Fascist Italy, and Soviet communism to a general model of totalitarianism.

It is obvious but not trivial that all models are only an approximation of the phenomena to which they apply. Even under ideal circumstances, they must lag behind reality because they are inevitably based on historical data.

The rub comes when we realize that the models by which we represent various societies are used to interpret the data which pertain to those societies. For example, both the Soviet Union and the United States use piece-rate systems of industrial incentives. As a matter of fact, the Soviet piece-rate systems are more extreme than the American ones. From the Soviet point of view, however, such incentive mechanisms, when used in the United States, are part of the system of capitalist exploitation. Since by their definition there can be no exploitation of workers in a socialist society, the Soviet piece-work system is subject to more benign interpretations.

The more "expert" one is, the more one is concerned with the fundamental features of the system depicted in the generalized model. Hence, it is no surprise that American journalists and casual observers are more likely to see change in the Soviet Union since Stalin's death than are the full-time scholarly experts on the Soviet Union. The experts would contend that laymen are misled by "nonessential changes." They would point to evidence of misinterpretation as a result of the laymen's not having an adequate understanding of the Soviet system. For example, they might say the relaxation of police terror should not be taken too optimistically because past experience (by which they mean the generalized model to which they are committed) indicates that Soviet leaders would not hesitate to reestablish a system of police terror if it were in their interest.

Revising the Model

This is not to say who is right and who is wrong. When so much evidence is ambiguous, one relies heavily on his model to interpret the data. In general, one is disposed against dismissing any new event as an "accident" or as "not interpretable." The effort to interpret discrete events—a shift in Soviet personnel, a change in farm policy, Soviet buzzing of American planes in the Berlin corridor—tends to assimilate the newly interpreted data to the old model and thereby reinforce the model.

Ability to revise one's model is closely linked to the quality of the data one can gather. Considering the nature of the models each side holds of the other, the type of information required is especially demanding. Social theorizing in Western thought seems to have fixed on the problem of control. The key questions asked have been, Who does or should exercise control and by what means? The prevailing image of organizations has been one which emphasized the locus of power in one group or another, with other groups relatively subservient or exploited. The Soviet view of capitalism and the American view of Bolshevism are extreme control models in which virtual omnipotence is attributed to the ruling elites. Given such explanatory devices as "tactical retreats," "long range goals," etc., a tremendous amount of conflicting information can be explained away. Only a detailed observation of day-to-day functioning of institutions, made by a person flexible enough to revise his view of things, can challenge such models.

Paradoxically, work with Soviet refugees (*1*) helped to break up the simplistic notion of a monolithic totalitarian state and to provide a view of Soviet society that conforms more closely to how one may reasonably assume so large an organization would function. Further work by Merle Fainsod (*4*), based on captured files of the Smolensk communist party, has given us still more insight into the complications of controlling a large industrial society. Ralph White's work (7) on the reciprocal images which American and Soviet citizens and officials hold of each other has injected further reality into our view of the similarities and dissimilarities between the two systems.

Obviously our knowledge of the Soviet Union is much poorer than we would wish. In fact, data on our *own* society is grossly inadequate relative to many of the generalizations we do or would like to make about it. By now, however, we have had enough detailed information about the functioning of Soviet institutions to make it clear that our earlier schematized notions of a totalitarian state and our schematized delineations of the differences between Soviet communism and American capitalism must be refined. On the one hand, large-scale industrial societies seem to have some features in common, regardless of their political and economic systems. And even so centralized and despotic a regime as Stalin's operated with constraints on the extent of its influence. No longer does it seem reasonable to treat the "intentions of the Soviet leaders" as projectable directly into the future. Even among the least sophisticated of American commentators, Khrushchev is seldom seen as a free agent, but as a man who pursues his objectives while mediating internal and external sources of pressure.

Cherished Stereotypes

There has been an ironic unwitting acceptance of "Marxism-Leninism" in the extent to which many Western observers in the past have fixated on the *intentions* of Soviet leaders. One can only conclude that many Western observers granted to them the omnipotence implied in their claims to the "scientific" nature of Marxism.

But, as the stereotyped image of communism breaks down, we discover that this stereotype serves the function of differentiating the two systems and that modification of the stereotype is not welcomed on all sides. Some of us who have tried to bring into perspective the balance of similarities and dissimilarities between the two systems have been criticized from both the Soviet and American sides of "failing to understand the essential difference between the two systems." Ralph White received a round going-over on the floor of the Senate because, in the words of his critic, he "advanced the general theme that we are not too different from the Communists, after all."[3] Needless to say, White noted quite essential differences, but in some quarters, at least, it is threatening to mention *any* degree of similarity.

A final source of influence on our quasi-paranoid view of the Soviet Union is essentially an historical accident.

In the years immediately after World War II, a number of American Congressmen developed a close relationship to articulate refugee spokesmen. This, coupled with an understandable pervasive wish that the Soviet Union would go away, resulted in a fairly widely held belief that the Soviet people were ripe for revolt. Those of us working with refugee data, making a more dispassionate analysis, we thought, of their testimony, concluded (*6*) that the Soviet populace was far from being on the verge of revolt. Accordingly, we felt it our duty to spell out the sources of stability in the Soviet regime.

No sooner had we finished this task than Stalin died. Again there was a wave of wishful thinking that might have triggered ill-advised adventurism; and back we were to the task of cautioning against assuming too much instability.

In the post-Stalin period, the volume of journalistic reporting increased. American journalists tend to have a shorter time perspective than American scholars. Committed to the concept of "news," they are also more alert to discontinuity than to continuity. Whether these be the reasons or not, journalists have tended to emphasize change or the prospect of change more than have academic Soviet specialists. As a result, the specialists were again cast in the role of emphasizing stability and continuity.

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[3] See the remarks of Senator Thomas J. Dodd in the *Congressional Record* for 8 September, 1961 (Vol. 107, No. 157, pp. 17503ff.).

Realizing that I may be exaggerating somewhat, I am willing to venture a rash speculation. Because of the position taken by *other* people, American specialists on the Soviet Union concentrated on the sources of stability in the Soviet Union. Emphasis was placed on the controls exercised by the Soviet elite. To the best of my knowledge, what was said was warranted and in proper perspective, except that, like everything that is said, it was selective. But this selective attention to sources of stability probably delayed our attention to sources of change and our realization of the limitations of the powers of the Soviet leaders.

Paranoia Reconsidered

My own observations agree with much of what is implied by Fromm's description of what he calls paranoid thinking in international relations. Both sides have an overly-stereotyped, overly-rationalized image of the other's intentions and actions. To understand the origins of this kind of misperception, however, it is not necessary to resort to any inference of pathology unless we regard all of man's cognitive processes as pathological. Much of it seems comprehensible in the light of the concrete situation of Soviet-American relations and the relatively normal and inevitable psychological processes which are *in some measure* functional for both the individual and the group. But, as with so many human phenomena, function and dysfunction are opposite sides of a single coin. In terms of the major problems with which the Soviet Union and the United States are faced, these misperceptions are largely dysfunctional.

It would be careless indeed not to discuss the locus of these misperceptions. For example, it would certainly be helpful to know how high up in the Soviet hierarchy they extend. On the basis of personal experience, I am convinced that they are held by persons reasonably high in the Soviet foreign service, but how high I do not know. On the other hand, I am equally confident that they are *not* held by some persons quite high in our own government, but by how many I do not know. I rather think that these misperceptions act as a source of constraint and pressure on our own national government. They may be shared by relatively few people in high places, but these few are able to mobilize considerable support from the general citizenry.

Psychology and related social sciences *are* making a contribution to the resolution of at least some of the problems considered here. This is by developing a more naturalistic view of social organizations. Much of the difficulty we have in intersocietal perception has to do with the fact that over-all analysis of large social groupings, such as nation-states, has been the business primarily of political scientists, who, when they have not been concerned with normative problems of what is good and bad, have been primarily concerned with taxonomy, the problem of classification. Classification means differentiation. "Good" and "bad" also puts an emphasis on differentiation.

It turns out that when we look at what people are actually doing, there is a great deal more similarity than one would ever suspect if he looked only at the organizational blueprint. In recent months, I have exposed students of American business administration to material on both Soviet and Japanese factories. In some respects, the formal rules of the game in the three systems are complete negations of each other. Yet the students observed that the actual behavior within the three systems could be quite similar.

This is not to say that the organizational blueprint—*e.g.*, capitalism *vs.* communism—can be dismissed as a mere epiphenomenon. The blueprints reflect *some* actual differences, *some* of which may be very important. Furthermore, to the extent that the blueprints are public, they have behavioral consequences. One of the major tasks of the social sciences is to bring about an adequate reconciliation of our views of formal and informal social systems. But what we now know about the functioning of large-scale organizations should make it impossible *in principle* to accept as accurate either the Soviet or the American view of the extent of control in the other society.

This does not deal frontally, to be sure, with the processes of misperception. It is my impression that a popular approach for psychologists to such phenomena as perceptual distortion is to draw the parallel with pathological phenomena and thereby try to shame people into "sanity." Aside from the fact that it doesn't work, such a posture means an abandonment of the functional approach to cognitive processes, the psychologist's prime tool in finding order where others see only disorder. The mechanisms which have been discussed here fall well within the limits for sane men dealing with a complex world. To explain, however, is not to justify. Almost all the phenomena which have been discussed are more dysfunctional than functional in the context of the present world situation. While I have no handy remedies to offer, I hope that a discussion of humanly crucial problems in naturalistic terms may render them a little more amenable to inventive attack.

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Issues & Items

Kudos to the Council. In Hicksville, Long Island, as "educated" a part of suburbia as one would want to find, the school board recently was reported as appealing to the House Un-American Activities Committee for help in identifying writers whose works might sully library shelves and student minds. Apparently dubious of its own "excellence" in distinguishing such offenders, the board asked for HUAC's expertise in compiling lists of authors considered "communist, pro-communist, Marxist, pro-Marxist, fellow-travelers, or communist-fronters" in order to protect the Hicksville schools from being turned into "debating societies" through an examination of their books. According to Mr. W. A. Bruno, Jr., a member of the board, equal zeal is being expended to purge the literature of the extreme right from the classroom, although that point seems to have been omitted in the request for help from the House Committee.

We pass over Hicksville's interesting opposition with a bare mention: The American Legion and the American Bar Association, of course, have been pressing hard of late for direct instruction in communism as a sensible way of becoming acquainted with a danger with which we must contend with informed strength and educated wisdom. Similarly, the Hicksville board appears to disagree with Mr. Richard Nixon, who indicated last November that he "believes in reading what his opponents have to say about him." But the important thing about this Long Island case is not its intrinsic characteristics; it is its symptomatic quality. It is suggestive of the restricted circulation in the Phoenix, Arizona, public schools of Huxley's *Brave New World* and Mann's *Magic Mountain*, of the objections in Pontiac, Michigan, to the "pornography" and "obscenity" in *The Scarlet Letter*, *The Good Earth*, and *Drums Along the Mohawk*, and of that remarkable incident in Pacific Palisades, California, where a youngster was instructed to leave his copy of *The Wizard of Oz* at home because its author, Frank Baum, was suspected of communist sympathies!

At the very time that the paperback revolution in publishing has made widely available some of the most excellent and influential books of all ages, it is a trifle startling to find the move toward censorship acquiring renewed vigor and finding citadels in the very place where freedom of access to ideas should, according to our ideals, be most uncompromisingly asserted—our schools and the citizens' boards that preside over them. In a pluralistic society, if our schools are not the "debating societies" that so frighten Mr. Bruno, they are likely to be a transmission belt for a particular and narrow interpretation of the American tradition. Unless they are debating societies, they violate that most basically American principle of all, the application of the individual's informed and critically trained intelligence to socially significant issues.

Happily, the National Council of Teachers of English has spoken up in clear and firm tones. *The Students' Right* *to Read* is a pamphlet, prepared under the direction of E. R. Gordon, director of teacher education at Yale, which documents the efforts and effects of self-appointed censors and outlines a positive program to reassert the fundamentals of intellectual freedom and to translate them into useful action. While underscoring the right of parents and community officials to make inquiries about curricular materials, for example, the Council also urges that schools require such people to file their questions or complaints in writing and to reveal fully their own identity and that of any organizations they may represent. While stressing the responsibility of teachers to use books that meet proper literary and intellectual standards and that are suitable for the maturity levels of the children to whom they are presented, the Council also points out that virtually everything worth reading, including the Bible itself, takes controversial positions on moral, social, and political issues. By involvement in the controversies and a widened awareness of the alternatives available to him, a student develops that capacity for knowledgeable and responsible choice that is one of the prime marks of the educated man. The more those alternatives are restricted, the less is the educational service a school can render.

The NCTE has done a courageous and competent job. In addressing itself forthrightly to one of the major problems besetting public education, the maintenance and enhancement of the right to knowledge, the Council has provided leadership for far more than teachers of our language and literature; it has provided an admirable model for all of us.

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Biology on Film. Featuring Dr. Bentley Glass, chairman of the Biological Sciences Curriculum Study, a filmed report on the progress of the Study is now available. Dr. Hiden Cox, executive officer of the American Institute of Biological Sciences, and Dr. Arnold Grobman, director of the BSCS, also appear in this 20-minute documentary, which reviews the accomplishments of the Study, presents the materials it has prepared, and demonstrates its *modus operandi.* Valuable for teachers, students, and teacher educators, prints may be obtained on loan without charge from the offices of the BSCS at the University of Colorado, Boulder, Colorado.

★ ★ ★

Retire to the Peace Corps. Successful retirement is primarly a matter of retiring *to* rather than *from* a given field of activity. The field retired *to* should be one that fully utilizes the skills and special abilities of the retirees and is within the purview of the public welfare; it should offer expanding vistas and horizons, new understandings, new friendships, new interests, and it should constitute a worthy challenge. The new field should also offer a financial return that would supplement the usual pension allowance of most retirees.

The Peace Corps now offers to retiring teachers a two-year retirement opportunity which meets all of these conditions. During 1963, more than 3,000 teachers will be required to man various teaching posts in some 50 countries throughout Latin America, Africa, and Asia. Up to half these posts may be filled by 1963 retirees if they are physically fit and otherwise qualified.

Any American teacher who plans to retire during or at the end of the current school year and desires to retire *to* such a challenge should immediately request a copy of the new brochure on "Older Volunteers in the Peace Corps" and a questionnaire from Peace Corps, Senior

Manpower Recruitment, Washington 25, D. C.

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Monthly Miscellany. What has been the response to public pressure since the first Sputnik for more emphasis in the schools on academic subjects? A survey by the Ohio Association of School Administrators provides some hard data. In Ohio, the biggest drop in enrollment over the years 1960-1961 has been one of 25.5 per cent in fine arts. The biggest gain has been not in the natural sciences, but in the social studies—8.2 per cent. Although three school systems have added vocational arts instruction during the period, only a gain of one per cent shows up in enrollment statistics. While there seems to be some trend toward greater academic concentration and a falling off in such subjects as practical arts and driver education as well as in the fine arts, the Ohio findings do not suggest an overwhelming reaction.... According to the Bureau of Labor Statistics, some 21,000 new scientists (exclusive of engineers) will be needed in the US every year, plus about 4,000 replacements. To meet this demand, a total of 83,000 degrees will have to be awarded annually in the sciences. The disproportion between degrees and actual working scientists is accounted for by the surprising fact that nearly 70 per cent of those winning degrees in science do not enter the professions for which they are trained. . . . The first major zoo in the US in many years is being constructed in Phoenix, Arizona. The children's section is now open. In addition to a pond for fishing and a gold-panning creek, there are chicks hatching every hour, a nursery for baby farm animals, a mammoth pumpkin, and other fine attractions. . . . Total enrollment in the US Army's European schools for dependents has jumped from 1,270 in 1946 to a thumping 68,000 this year. . . . The National Educational Television Center estimates that nearly 2.4 million students are taking close to 30,000 courses via TV. . . . Also from Ohio comes this bit of historical perspective: In Lancaster in 1828, permission was requested for the use of the school to house a debate on the question of "whether or not railroads are practicable." The school board turned down the request, declaring that, "If God had intended his creatures to travel at the frightful rate of fifteen miles an hour, he would have said so in the Gospels."

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The psychology of art: Past, present, future

THIS IS A BRIEF SKETCH of a large and widely scattered subject. It is difficult to summarize, partly because it is not a definitely integrated science or branch of scholarship with consistent methods, accepted aims, and boundaries. Important contributions to it have been made in many other fields—in philosophy, general psychology and psychoanalysis, art criticism, anthropology, and elsewhere. It is hard to draw a line between these contributions and the psychology of art as a subject in its own right. At present, it is a rather vaguely defined area of discussion and research, highly diversified in method and subject matter and broken up into many almost unconnected lines of thought. Yet many of the problems with which it deals are widely recognized as important for the understanding of human nature and civilization. They also have important bearings on educational policy.

The chief present need, as I see it, is to draw some of these threads together as a step toward theoretical integration and cooperative research. I will try to restate some of the main problems and sketch the history of past attempts to deal with them.

Technique of Understanding

Certainly, the psychology of art cannot claim to be a full-fledged science or branch of science at the present time. It is usually regarded as a branch of psychology, sometimes under the name of "psychological aesthetics" or "experimental aesthetics." Some would call it a kind of applied psychology in the sense of applying general psychological knowledge to a specific type of cultural activity and product. It would then be analogous to the psychology of religion or law. But it is not "applied science" in the sense of being devoted to practical uses. It is primarily descriptive, a search for knowledge in a certain field of phenomena. Like all pure, descriptive sciences, it can also be applied in practice—for example, in art education and therapy. But the present essay will consider it mainly as a quest for knowledge and understanding.

The psychology of art is also classed as one of several branches of aesthetics along with aesthetic axiology (value theory) and aesthetic morphology (the study of form in the arts). Morphology, art criticism, and art history emphasize works of art, whereas the psychology of art emphasizes the behavior and experience of the people who make and use them. But all these branches overlap. To understand the work of art, one must pay some attention to its human context and vice versa. In the psychology of art, we try to avoid making moral and aesthetic value judgments, but this cannot be done completely.

It is well known that, since the late nineteenth century, psychology has had a revolutionary impact on Western thought in every field. Scholars have come to interpret each set of phenomena —such as law, religion, medicine, and art—in terms of how people think about it, how it affects or can affect human experience. The pioneers in this revolution were not professional psychologists, for there was no such profession then. They were men in other fields, like philosophy and physiology, who helped to change the old "philosophy of mind" into an empirical science.

From its beginnings as an experimental science in Germany, psychology laid considerable stress on aesthetic problems. This interest lasted to some extent through the first decades of the twentieth century, then diminished greatly in recent years. Indeed, as a branch of experimental science, with rigorous ideals of exact measurement and statistical and laboratory procedure, the psychology of art is less active and less influential today than half a century ago. At that time, under the influence of Helmholtz, Fechner, Wundt, Külpe, Münsterberg, and other German scientists, a number of European and American psychologists began conducting research on aesthetic phenomena. Among them were Bullough, Witmer, Legowski, Von Allesch, Angier, and Thorndike, whose work has been recently summarized by A. R. Chandler and C. W. Valentine. While psychology as a whole has grown and ramified prodigiously, the percentage of its active workers specializing in art or aesthetics has grown steadily less. During and after the First World War, the psychological interpretation of art and artists received a great stimulus from psychoanalysis, which promised to solve many of its problems. This interest continued as Freud and Jung dealt more explicitly with artistic subjects, but art is hardly a major concern today in psychiatry or psychoanalysis.

On the other hand, the educated public outside scientific psychology has shown a steadily increasing interest in the psychology of art and artists. It is actively discussed not only by writers specially concerned with the arts, but in anthropology, education, and other social and cultural fields. Much of the discussion is mere amateur psychologizing, not too well informed, and often speculative and dogmatic. Some emphasizes the sensational, as in stories and films about Van Gogh and Toulouse-Lautrec. Some is by serious scholars, well aware of what has been done in scientific psychology. The comparative lack of leadership from scientific psychology is unfortunate because laymen, however intelligent and well read in a casual way, tend to drift into unsupported speculation or to misinterpret the ideas of specialists. But even without much professional aid, the psychological approach in general continues to thrive in all branches of humanistic scholarship, including the arts.

After World War II, several factors combined to discourage scientific work in the psychology of art. One was the virtual elimination as a wartime casualty of German scholarship in psychology, philosophy, and aesthetics. That effect still lasts. The tendency everywhere is to favor engineering and other practical subjects rather than aesthetics and the cultural sciences. This is evident in psychology itself in its growing emphasis on industrial and clinical tests.

The "Inside" Event

Another unfavorable trend was the growing insistence in American psychology on exact, behavioristic, quantitative methods. Some kinds of human behavior toward art can be easily observed from the outside. Some can be experimentally produced, controlled, and measured in a laboratory. Other kinds can not. Some of the most important processes of art and aesthetic experience are subjective; they occur inside an individual and cannot be directly observed by anyone else. Their nature must be inferred from external evidence which is often misleading. These processes include the creative imagination and much of the aesthetic response to art—what happens within us when we listen to music, read poems, or look at pictures. An especially large and vital part of experience related to the arts is inaccessible to outside observation.

A large part of human thought and experience in every realm, toward every kind of object, is likewise subjective and concealed from external observation. For this reason, any general psychology which limits itself to strictly behavioristic methods, avoiding all inference from subjective reports and introspective data, must have enormous gaps in its coverage. There will be vast, important realms of human experience which it leaves undescribed. These gaps, often unacknowledged or concealed in psychological texts, concern especially the more complex, cortical processes of abstract reasoning and the more subtle, quiet feelings and desires which do not manifest themselves externally to any great extent. Like the psychology of art, that of religion, philosophy, science, love, and friendship can not be adequately dealt with in purely quantitative or behavioristic terms. To cover its whole field, the psychology of art must consider the highly civilized, technical manifestations of art and aesthetic experience as well as the more rudimentary, universal ones.

The foundations of a prescientific psychology of art were laid centuries before it became an empirical science. They were laid by such philosophers and literary theorists as Plato, Aristotle, and Longinus. To the strict behaviorist or laboratory psychologist, their theorizing seems highly speculative. But what the laboratory psychologists have been able to achieve by exact methods, from Fechner to the present day, adds up to comparatively little from the standpoint of those who deal directly with the arts. As summarized in general surveys, it deals with the more marginal, superficial aspects of art and aesthetic experience, with statistics on preference, optical illusions, verbal associations, and the like, or with the more obvious aspects of form and technique. It never reaches those levels which artists and scholars in the arts regard as most central and important to the phenomena concerned. Observations made on behavior in a laboratory toward such highly simplified objects as dots on a page, shapes of rectangles, or isolated bits of music, are not necessarily applicable to the experience of complex works of art under free conditions. Endless statistics on expressed preferences may tell us very little about what happens inwardly when people look at art. Such researches have their value but do not cover the ground. Seeing the lack of progress, many psychologists have lost interest in aesthetic problems and moved on to what their fraternity regards as more productive fields.

Toward Synthesis

There is another alternative, however. It is that of a broader, more diversified approach to aesthetic problems on several fronts. For those who prefer it, there is still much to be done along quantitative, experimental lines. But this can be supplemented by less exact methods and by more synthesis, more mutual checking and verification of hypotheses from different sources. Workers in the nonscientific fields of art scholarship could profit from more contact with experimental psychology. I believe that such cooperation could do much to revive an interest in the psychology of art as an active subject. I am not asking that psychologists abandon their ideals of exact, objective knowledge. Let them keep on using measurement as far as it will take them, but not rely on this approach exclusively or ignore the results of other approaches.

The situation calls for more active cooperation between psychologists and other types of scholar. Art historians, critics, and aestheticians should learn more about psychology and vice versa. It seems obvious that, to do research on the psychology of art, one should know something about art as well as psychology. But to find an American-born, American-trained psychologist who has more than a slight acquaintance with the visual, musical, and literary arts is a difficult piece of research in itself. Such persons do exist, but they are hard to find.

The road I have in mind is a broad, well traveled one in European thought. It includes, in the first place, the cautious but extensive use of *introspective* data, such as reports by individuals on their own artistic and aesthetic experience. These are not to be taken at their face value, of course, for their unreliability is obvious. But systematic efforts can be made to check and interpret them significantly, somewhat as a psychiatrist interprets the introspective reports of his patients. The events of inner experience, such as dreams, are an authentic kind of phenomena. A broadly empirical psychology will not ignore them.

In the second place, a broad conception of "behavior" must recognize that *art itself is a kind of behavior*. So is art criticism. The making, performing, using, and enjoying of art all have their overt, active phases, in addition to their inner, subjective phases. The former at least can be observed and described from the outside and yield empirical data for the psychology of art. Everything that is written or said about art and artists is a kind of behavior. Not only what artists do, but also what critics, teachers, patrons, and the general public do and say in relation to art comes under the general heading of behavior. This includes what people read, buy to put in their homes and offices, or pay to see or hear in theatres. It includes the way artists make a living and the way other persons in their culture treat them.

Much of this can be classed as data for sociology or social psychology, but it is also relevant to the psychology of art. It is being considered to some extent by historians, critics, and social scientists, but all of these have their own special interests. They tend to neglect the aspects which are most important from a psychological point of view—the inner motivations, the modes of thought and feeling, the development of creative and aesthetic abilities, which lie behind the external manifestations.

A third requirement is for more attention to the *philosophical* aspects of psychology. This need is greater here than in Europe because of the greater prominence given there to philosophical studies. These tend to encourage a broad systematic approach in any field. American research is recognized as being, on the whole, too highly particularized and lacking in theoretical synthesis.

Much European psychology has a different weakness, which disqualifies it from the American point of view. It is too much pervaded by metaphysics, especially of the idealistic or dualistic school. This is obvious to the present day in general texts on aesthetics and in the statement of such theories as that of empathy (*Einfühlung*). American psychology inclines more toward empiricism and naturalism, but in a rather vague, implicit way, without thinking out its own philosophic position. This tends to make it superficial and sometimes unaware of its intellectual assumptions. One great need is to restate older theories like that of empathy in a more acceptable way, detached from their old metaphysical associations; but this cannot be done without some philosophical training.

The fourth main requirement is for a more *historically*, *socially*, and *culturally* oriented approach. Early psychology emphasized those traits of behavior and experience which were thought to be universal in human nature, characteristic of all normal individuals. Later, many of the traits which it described were found to be peculiar to our modern, Western society. In dealing with art, people have acted, felt, and thought very differently in other periods and cultures. Recent psychology has become more aware of these differences, but much research and writing on the psychology of art is still based only on present, local data, and conclusions are often stated as if true of people in general. The need for more awareness of cultural change and variation is especially great in studying the phenomena of art and aesthetic taste. Yet the psychologist too often feels that art history, culture history, and anthropology are none of his business. This fault is not entirely limited to American psychology. It exists wherever education, science, and scholarship have become too rigidly compartmentalized.

Creation and Appreciation

The main connecting link between these different approaches is a common interest in certain perennial problems. The general task is to describe and explain the phenomena of human behavior and experience in relation to works of art. These phenomena fall into two main groups, closely interrelated: those of *creation* and *appreciation*. One deals with the *artist* (as creator, performer, or craftsman); the other deals with the *observer* of art, the looker, listener, or reader, the user, appreciator, or critic. Economists have called them the "producing" and "consuming" publics of art.

What functions, abilities, and processes are involved in each? How are they related to the basic functions of human nature as described in general psychology? Are they distinct in kind, or different only in degree of acuteness and in application to different types of situation? How do they vary and develop from culture to culture, period to period, and from childhood to maturity in the same individual? What determines individual differences in taste, aptitude, and type of art production? To what extent are they innately predisposed, and to what extent culturally influenced? What factors, within the individual and in outside objects such as works of art, combine to cause various types of experience and behavior? How are they related to the various styles of art and to the general cultural climate of an age and people? What is creative imagination? How does it operate and how is it motivated? What distinguishes and causes different degrees and types of creative ability in individuals? Is the difference between mere talent and genius a matter of degree or more fundamental?

The modern approach to these problems is usually more pluralistic and relativistic than the ancient one. It was formerly supposed that there was only one kind of true artist worthy of the name, and one kind of genuine art, obeying the eternal laws of beauty. There was only one right way to create good art, though individual genius might vary the process in detail; hence, one might correctly speak of *the* artist or *the* creative process. Likewise, there was only one general set of standards for good taste, though minor differences among superior persons might again be allowed. The tastes of the lower classes were regarded as hardly worth studying. In the light of this basic uniformity, one might correctly speak of *the* standard of taste, *the* aesthetic judgment, or *the* sense of beauty. Today, we assume that there are many kinds of each and that none is necessarily right or best. Each may have its own values. The task of descriptive science is not to judge them, but to observe and generalize on their nature, varieties, and interrelations. Consequently, the field of phenomena being investigated is now much larger, since it is not arbitrarily limited to a few varieties.

An individual's art production or response to art is influenced by many variable factors, internal and external, social and cultural, including his previous experience of art. The effect of a certain painting or piece of music may be very different when experienced in a church, a dance hall, a military parade, or a scientific laboratory. A child's behavior toward art and the preferences he expresses may be very different if he is alone, with other children, or under the eyes of parents or teachers. One cannot isolate an aesthetic phenomenon from its actual or usual context in life without changing its nature and destroying or distorting some of its original characteristics. Psychologists once made the mistake of thinking that, if people respond in a certain way to a certain picture in a laboratory, they will do so always and everywhere. Now we see that aesthetic responses vary greatly, not only in relation to the age and ability of the individual concerned, but in relation to his temporary attitude and the circumstances under which his experience takes place.

This complicates the task of psychological inquiry and necessitates a more relativistic approach. We need to know in great detail *how different kinds of art affect different kinds of persons in different kinds of situations.* In ordinary life, each of these factors contains a great many variables. Most of them are constantly changing and producing highly complex, transitory configurations in behavior and experience. Since they are all hard or impossible to measure, the task of discovering their correlations is enormous. Nevertheless, experimental simplification is quite possible, and the sheer fact of complexity is one of which investigators and educators must be aware. It cannot be made to vanish merely by ignoring it.

Opposition to Science

An interest in the two main types of aesthetic phenomena, artistic creation and appreciation, was shown in early Greek poetry and philosophy. Why, then, did it take so long to develop a scientific approach to them? The answer lies mainly in the slow achievement of the scientific attitude and method in general, especially in the humanistic fields. The dominant approaches were those of religious mysticism and metaphysical absolutism. Early attempts at an empirical, naturalistic approach, like that of Lucretius, were beaten down repeatedly. The old, antiscientific attitudes persisted in aesthetics through the Renaissance and up to the present time. Any talk of scientific method in the study of art still meets determined resistance from influential scholars as well as from artists and the general public.

The origin of psychological theorizing about the arts can be traced to the widespread primitive belief in the supernatural power and inspiration of the artist. It was thought that some artists, like shamans, priests, and oracles, could be divinely inspired; their artifacts, chants, and dances could have magical power for good or ill. Implicit in this religious explanation is a true psychological insight: Artists often feel and act as if their best creative work were directed by some outside power over which they have little control, not consciously willed and planned from within. To explain this is still a scientific problem on which some light has recently been thrown by the psychoanalytic theory of the unconscious.

The other basic problem is that of the effects of different kinds of art on observers. Here again, poetry foreshadowed science in pointing to a psychological fact—the power of music over the emotions. Pindar sang, in one of his odes, of how music can calm the violence of Ares, god of war. Plato similarly showed how musical training in youth affects character.

By the late eighteenth century, however, the empiricism of John Locke undermined the Platonic and Cartesian belief in innate ideas, including "recollections" of heavenly perfection. It opened the way to revolutionary thinking by raising the processes of sensation in esteem, not only as the only source of true knowledge, but as the chief source of pleasure and pain and, hence, of moral and aesthetic value. Eighteenth-century psychology developed the "associationist" theory, which sought to explain imagination and knowledge by showing how small units of sensation (impressions, images, or ideas) rearranged themselves into complex forms in the mind through contiguity, similarity, and other "laws" of association. Associationism also undertook to explain how objects and ideas take on emotional quality, including pleasantness or unpleasantness, by association with more primary pleasures and pains. This had an obvious bearing on the formation of tastes in art and on the sources of an artist's attitude toward certain subjects, forms, and styles.

Blake, Shelley, Wordsworth, Coleridge, and Hazlitt, in the early romantic period, all glorified imagination and emotion in contrast to reason as the basis of vital richness in the arts. They insisted that great art could not be produced by any sort of rational rules or mere skill in controlling the observer's feelings. Genius makes its own rules and proceeds mainly by expressing its own spontaneous visions and emotions. But most of the great romantic artists attempted some intellectual analysis of the psychological processes of art. By emphasizing the irrational or nonrational elements in art, romanticism turned the attention of theorists toward what was later called "the unconscious." The main sources and motives of art, it appeared, were not to be found by studying either the rational or sensuous elements; rather, they appeared at times in dreams, drug-induced fantasies, sickness, and insanity.

Kant, at the end of the eighteenth century, followed the English aestheticians in describing aesthetic pleasure as "disinterested," *i.e.*, as not mixed with any desire for a practical, ulterior end. His classification of the arts was mainly empirical. But he moved away from psychology and back toward metaphysics in seeking an *a priori* basis and sanction for judgments of aesthetic value—not how men *do* judge art, but how they *should* judge it.

Naturalistic Developments

As the great intellectual achievement of the eighteenth century was the theory of progress, so that of the nineteenth century was the theory of evolution. The history of the arts was shown as an integral part of the progressive evolution of culture, along with technology, social organization, religion, philosophy, and science. Art and all the psychological processes involved in its making and use were shown as subject to change and development, not fixed and eternal.

The evolutionary account of the natural origins of all man's mental abilities, including those employed in art, strengthened the naturalistic worldview. This helped to lay the foundations for psychology as an empirical science. It opposed the metaphysical approach, especially the older dualistic and idealistic theories of mind. Attention turned more to the physiology of the brain and nervous system as the mechanism directly responsible for man's higher mental processes and products, including art.

In keeping with this naturalistic *Zeitgeist*, a socio-economic interpretation of art was developed under the leadership of Karl Marx and Friedrich Engels. Non-communist scholars consider it oversimplified in attributing all cultural events, including those of art, primarily to socio-economic determinants. They insist that other factors, such as the innate predisposition of the individual artist and the inherent tendencies of stylistic change in art, also play major roles. In general, however, the idea that socio-economic factors influence art and attitudes toward art is now generally accepted. Most historians of the arts pay some attention to the social background of each period and nation and to the ways in which styles are related to socio-economic conditions. This bears upon psychology in that the artist is said to acquire and express in his works, often without realizing it, the ideology and economic interests of his social class and the system of which it is a part. It applies also to the phenomena of taste and preference and to aesthetic principles, which are likewise explained as resulting mainly from social conditions.

Somewhat similar was Hippolyte Taine's theory of the psychological environment. Three main types of factor, he said, were responsible for the distinctive styles and tastes in the art of each nation and period. One was environment, including both the physical and the societal; another was hereditary race, on which he laid far more stress than would present-day scientists; a third was "moment," by which he meant the temporary, changing configuration of art and culture in a certain group at a certain time. For his period, Taine proposed an objective, empirical, scientific approach to art and aesthetics. He was also a pioneer in what we now call social psychology.

With Fechner's *Vorschule der Ästhetik* (1876) came the hard, clean line of empirical, experimental research on aesthetic behavior. He gathered statistics on individual preferences for various shapes of rectangle and other simple forms, working out the curves of distribution objectively instead of trying to lay down rules for what people ought to like. Along with Francis Galton in England, he pioneered the experimental, quantitative approach to psychology and thus helped to bring in the scientific era in that subject as a whole. Galton also pioneered in another field of great importance to art and aesthetics, the nature of genius and the question of its transmission through biological inheritance.

At about the same time, in *The Birth of Tragedy* (1871), Nietzsche distinguished the three-way opposition of Apollonian, Dionysian, and Socratic tendencies in Greek art, suggesting their wider occurrence throughout history. Greek sculpture was Apollonian, he said, and music Dionysian, the two tendencies being combined in Attic tragedy. Apollo personified the calm and clear perfection of the dream-world; Dionysus, the blissful, self-forgetful ecstasy of drunkenness, merging individuality in a sense of mystic oneness. Socratism, stressing knowledge and intelligence, differed from both. This conception has been fruitful as a starting-point for distinguishing opposite types, not only in the arts, but in the personalities of artists and the attitudes of different culture-epochs. As an artist himself, Nietzsche described other aspects of the creative process, including the "sudden flash" of inspiration.

Newer Trends

Modern interest in the child's aesthetic experience and expression goes back at least to Rousseau and Froebel. Spencer and others wrote of the value of art activities in the child's mental development. One of the earliest discussions from a psychological standpoint of children's drawing and modeling was Corrado Ricci's (*L'Arte dei Bambini*, 1887). He described in some detail the forms characteristic of successive age-levels.

Similarly, the notion of empathy (*Einfühlung*) as a universal tendency or process in aesthetic experience can be traced back to Aristotle; but it was brought to the fore and developed along psychological lines in the late 1800s by such German writers as Vischer, Volkelt, and Lipps. Vernon Lee and Langfeld further developed it as an aesthetic principle in the early twentieth century. Briefly, the theory of empathy seeks to explain aesthetic responses to art and other objects by showing how the observer tends to project his imagination or "feel himself into" the outside object.

Also by the end of the nineteenth century, Freud's momentous writings, comparable in revolutionary impact to the theories of progress and evolution, had begun to appear. His early works were clinical and concerned with neurotic personality types. They portrayed the artist as inclined to neurosis but often able to escape it and compensate for his frustrations through finding a "way around to reality" and success. This he could do by expressing his fantasies in forms satisfying to others. In his later works, Freud assigned a more constructive, normal role to art and the artist, and dealt more extensively with the phenomena of art as related to dreams, folklore, primitive religion, and the perennial warfare between the destructive and constructive forces in civilization. His writings threw considerable light on the symbolism of all the arts—their imagery and the reasons why certain images come to have emotive power of a positive or negative, pleasant or unpleasant sort. Carl Jung, on the other hand, emphasized the role of archetypal images in art and of the extravert-introvert polarity in personality structure.

In France, meanwhile, T. Ribot's *Essay on the Creative Imagination* appeared in 1900 and was translated into English in 1906. It dealt especially with the differences between the merely reproductive imagination, as in memory, and the creative or constructive imagination, as in art and science. It also discussed the mystical and other varieties of imagination often expressed in art. Some years later, John Livingston Lowes, in his much-discussed book on Coleridge, *The Road to Xanadu*, described three factors which interact in imaginative creation: first, the storing of the "well" of remembered experience; next, the creative "flash" of vision, when details fall suddenly into place; and later, the long task of translating the vision into actuality through elaboration, correction, and refinement.

Some interesting experiments are being done on related processes, such as the effect of certain drugs in stimulating vivid fantasies and unusual states of mind.

Some drugs produce experiences similar to those of ecstatic, mystic revelation.

Process and Culture

But imagination is only one of the constituent processes in artistic creation. They operate in complex, ever-changing configurations, mostly inaccessible to observation. Many theoretical attempts have been made to describe recurrent general traits of artistic production and performance and also some of the main varieties, especially in relation to different personality types. As data, the reports of artists on how they think out and execute their work differ greatly in value. More significant data are sometimes available in an artist's series of preliminary sketches or rough drafts, showing a work at various stages of development. The artistic process varies greatly as to the artist's type of personality (*e.g.*, planful or impulsive, introverted or extraverted) and also as to the styles and theories of art which are current at the time. Today, the desire of some contemporary painters to create impulsively and automatically has been encouraged by the teachings of Zen Buddhism, not always thoroughly understood.

Artistic processes also differ considerably from one art or medium to another. In some, such as architecture, more practical, technological thinking is required, as well as attention to economic factors and the particular tastes of the patron. In others, such as painting and poetry, the artist is often more free to express his personal fantasies and impulses. Generalizations must be made in relation to many such variables. Efforts have been made to analyze "appreciation" (or the "aesthetic response," the "sense of beauty," or some related concept) into its main components, configurations, and varieties. Both the appreciation and creation of art are now seen as highly diversified, variable processes. The appreciative or aesthetic attitude differs from the artistic in not being actively directed toward making any outside product, any work of art. It tends to emphasize a detailed, sensitive, emotional response to the perceived object, including imagination, empathy, and apprehension of meanings. It may or may not involve evaluation and preference for certain types or examples. It differs from free fantasy (without an external object) and from intellectual inquiry. Under civilized conditions, appreciation often leads to explicit verbal criticism, involving the search for appropriate words as well as a rational interpretation and judgment of the work of art or artist. This provides one more type of variable process for psychology to describe.

Influential in contemporary philosophy as a whole, the study of words and meanings has important bearings on aesthetics and psychology. Much art is wholly or partly verbal. Criticism, evaluation, and other responses to art are commonly expressed in verbal terms. So is all theorizing about the arts. Sometimes the ambiguity of words is valued for aesthetic and emotive reasons. In science and scholarship it can be a hindrance. Man's use of verbal and other symbols for conceptual thought and communication is one of his most distinctive and momentous achievements. Works of art can be analyzed in terms of symbols, iconic signs, and various types of meaning. To some extent, semantics can be treated as a part of psychology, as a descriptive study of verbal and other symbolic thinking and its role in behavior. A number of recent aestheticians have done so with special reference to art and aesthetic experience.

All kinds of behavior and experience toward the arts, however, vary considerably from one culture to another and from one period to another in the same culture. We have noticed the importance of recognizing and describing this diversity in the psychology of art. It has been forcefully revealed by anthropological and archeological studies during this century, especially of tribal and oriental cultures remote from our own. To see how the arts develop and function in a total culture pattern, including its social, political, economic, technological, religious, and intellectual components, can be deeply illuminating. To see the culture pattern as a whole helps us understand how art develops in certain ways within it, the status and function of the artist, and the standards used to judge his work. By comparing our own with exotic cultures, we understand our own more clearly and objectively. All styles of art, all creative and appreciative processes, can be integral parts of the culture as a whole. They are influenced by it and influence it in return. The patterns change at varying speeds; many are now becoming more similar because of cultural diffusion.

One important phase of this study is to discover and compare the value systems of different cultures—what people want, enjoy, admire, detest, hate, fear; what they feel guilty or ashamed about, and so on. Such evaluative attitudes become loosely integrated into systems. They are expressed directly to some extent in the arts in addition to being used in judging art. Some research in this field has combined the anthropological and psychoanalytic approaches.

Perception and Personality

As an attack on eighteenth-century associationism as too "atomistic," as falsifying experience by describing it in terms of unitary ideas, sense-impressions, and the like, Gestalt psychology rejected the traditional associationist view of how sense-data (in art and elsewhere) take on emotional, "tertiary" quality through being associated with pleasant and unpleasant experiences. Preferring to think in terms of large, complex, configurations in art and other experience, Gestalt theorists have emphasized aspects of visual perception, such as the various ways of seeing relations between figure and ground in a picture. The total process of perception is not a simple one of sensing and interpreting. It varies greatly according to the expectations, desires, and emotional attitudes of the perceiver. Recently extended to deal with motivation in social behavior, the main contributions of the Gestalt school to the psychology of art have been on the side of perception and appreciation.

In a different fashion, analyses of personality types and individuals have an obvious bearing on the arts. It is often asked whether "the artist" is a distinctive personality type, perhaps akin to the neurotic. The consensus today is against such a theory. There are many kinds of artists, just as there are of other occupations. Certain personality types, such as the normal and the neurotic, the introvert and extravert, are said to cut across occupational divisions. There is considerable interest in classifying and characterizing not only artists, but also persons in other fields, including the superior and inferior, the genius and moron, the socially adjusted citizen and criminal.

It is fairly easy to devise a test or a questionnaire, give it to a number of persons, and treat the results statistically. But interpretation is difficult and liable to error, especially when used to diagnose some individuals as "normal" and others as having neurotic or psychotic tendencies. In interpreting the Rorschach, for example, there has been a tendency to regard any unusual, bizarre, emotional, or highly imaginative response as neurotic. Thus, a potential artist or other creative mind can be too hastily branded as pathological. This tends to perpetuate the old, mistaken association of genius with insanity, as in the theories of Lombroso. Much the same uncertainty surrounds the popular practice of psychoanalyzing students' or patients' drawings as a clue to possible neurotic or psychotic conditions. Much depends on contemporary styles in art and local standards of what is normal and admirable. At the present time, no particular kind of aesthetic taste or of artistic product is necessarily pathological. Sane artists produce works which, in other days, would have been considered as symptoms of insanity. Some deliberately try to suggest that condition. A really insane artist may, on the other hand, produce an anxiously careful, orderly, conventional picture.

From the standpoint of descriptive psychology, the importance of therapeutic activities in art, such as finger-painting with disturbed children, lies in the opportunity they give to experiment with different kinds of art and different methods of making and using them. It is probable that common human traits and tendencies often appear in the neurotic or psychotic personality in a magnified, hypertrophied, uncontrolled form.

Art Abilities

In the period between the two world wars, important studies were made in Germany, Austria, France, and elsewhere in Europe of the artistic development of individual children. Examples were kept of the drawing, painting, and clay-modeling of certain youngsters from infancy to maturity. Successive stages, observable in the drawings of all normal children, were distinguished in such terms as "scribble," "schematic," and "realistic." An effort was made not to direct or hasten the child's artistic development into adult styles, but to let his powers of visual conception as well as execution mature freely. Innate individual differences always appear in the child's work, over and above any such general, typical stages. The influence of the child's artistic environment and school instruction is also evident in spite of all attempts to keep him free from it. Similarly, studies have been made of the learning process in acquiring techniques of performance, as in playing the piano, and of how it can be accelerated.

Skills can also be developed in the perception and appreciation of art, with or without any skill in production or performance. The ability to perceive and understand complex forms in music, painting, and literature can require considerable knowledge and technical training. Most civilized persons develop some of this, as in looking at motion pictures. But there are many levels of such ability. Little has been done to investigate the learning process in these fields. The problem is often confused by different theories as to how one *ought* to look at or listen to works of art and to judge their value.

The interest in artistic abilities led to the construction of psychometric tests, aimed at the early discovery of artistic aptitude. Many were based on the assumption (later challenged) that objective art values could be determined within a group of paintings, poems, musical selections, and the like, by first securing a consensus rating by professional experts in the field, such as artists, art teachers, and heads of academies. A subject's ability to recognize good art could then be evaluated in terms of his conformity with the "authoritative" rating. Some tests involved "spoiling" or altering a picture or piece of music by some well known artist in the belief that the spoiled version would necessarily be worse. To prefer it would then be a sign of bad aesthetic judgment. Critics pointed out that the "spoiled" version might be as good or even better than the original in certain ways or for certain aesthetic effects. The result of such tests was to give a high rating to subjects who preferred the conventional examples and to penalize those of unconventional or *avant-garde* tastes. A few tests undertook to judge performance in drawing and other artistic skills by comparison with some scale of examples, supposedly arranged in order of merit. But these too rested on fallacious assumptions in that conformity to conventional adult standards of realistic representation was usually the implicit criterion. Other tests undertook to estimate not "ability," but a stage of maturation in, for example, drawing, by comparing a subject's product with a normative series from "scribble" to "realistic."

Confidence in tests of art ability, both creative and appreciative, has declined in recent years. This is partly due to trends in art itself, where realistic and other conventional types of form have been widely abandoned by contemporary artists. Dissonant types of music are often preferred over consonant ones, and violation of traditional rules is common in all arts. It is harder to assume, then, that the production of any particular kind of art or a preference for it is a sign of superior ability. Even the possibility of checking a test by success in a later artistic career becomes dubious. What is success in art, and who is successful?

The potential value of tests and measurements in the arts, however, does not rest entirely on their power to evaluate ability. They can be used in more objective ways, as means of estimating certain traits and tendencies in the subjects tested, without any implication of superiority or inferiority.

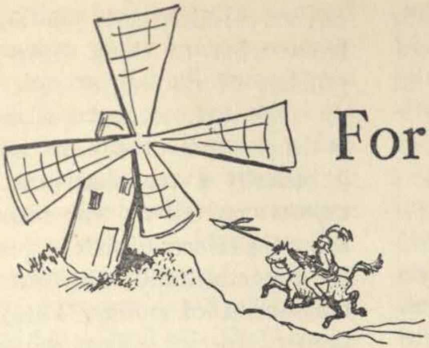
Influence and Education

In recent years, the arts have been extensively used as means of indoctrination and emotional incitement. Propagandist art is, of course, not new, since art has been used for millennia to glorify rulers and to spread religious doctrines. But now, like other methods of warfare, it has the powerful aid of science. The same is true of art as used for advertising and commercial inducement—not only in obvious visual layouts, but in films, music, and dramatic skits over radio and television, and in the "hidden persuaders" which try to influence people unawares, perhaps by almost imperceptible words concealed in motion pictures. Subtle appeals are addressed to the motivational mechanisms of different types of persons, *e.g.*, through disguised erotic symbolism in pictures. Psychology might well try to understand such uses better if only to guard against their dangers. Large sums are being expended for research in the psychology of advertising, much of which is relevant to the psychology of art in general—*i.e.*, on the ways in which different kinds of picture, song, etc., affect different age-levels, sexes, personality types, and educational levels of people.

As in the case of psychotherapy, I should like to emphasize here the role of education as a *potential laboratory for the psychology of art.* The schools, museums, studios, and other places where art is taught provide an excellent testing-ground for psychological investigation. At present, they are not much used for that purpose. Many practical difficulties stand in the way of experimentation in the schools, and it can be overdone. But it should be possible to do a little more than we are now doing. The amount of work is not as important as the way in which it is done; a small amount, with careful control of procedure and interpretation of results, is better than much of the vague, informal kind. Experimentation on a scientific level is not merely "trying out" this or that special method or device, such as finger-painting with music or the quick recognition of pictures briefly exposed. Without careful preparation, the results are always inconclusive if not meaningless. The aims, the standardized conditions and procedures, the resultant phenomena to be interpreted, must all be planned in advance and controlled.

What information, of value to psychology, might properly controlled educational experimentation provide? It could certainly throw further light on all the problems discussed here. It might give some verified conclusions, not mere guesswork and wishful thinking, on the results of different ways of teaching both creation and appreciation, or of fostering them without direct teaching. The question is not merely, Which are best? But what observable effects, if any, result from each method and each different set of materials, including exposure to different kinds of art at different ages? How can various specific, desired abilities be most effectively developed? Having a child under observation and care for year after year, the schools might throw more light on the processes of learning and emotional maturation as manifested in the arts, together with the factors which can encourage them or distort and arrest them.

In this connection, educators might try to think out, together with psychologists, the ideal goals which both would approve. What kinds of person are we hoping to produce through education? What kinds of artist, of art, and of cultivated layman? Or is it best to leave all these outcomes to chance and free impulse? These questions take us again outside the realm of descriptive science, but more psychological knowledge about the processes involved would be of great value to the educator.



For the Record

A New Year's greeting to the Congress

WHEN THE 88TH CONGRESS convenes this month on Capitol Hill, it may bring with it no evident new mandate from the voters, but it may quietly reflect a significantly novel state of affairs in American politics. If such is the case, it is likely to be a special instance of a more general trend in our national life and to have particular importance for two increasingly crucial enterprises, science and education.

To begin with, those who find seats this January in the House and Senate chambers do so by the grace of an electorate that seems to have broken loose from its traditional party moorings. To understand the Republican victories in the once "solid South" or Democratic upsets in once rock-ribbed Republican New England, it may be necessary to view them against the behavior of voters elsewhere. In New York, for example, more than 750,000 people who endorsed Republican Jacob Javitz for the Senate also favored Democratic Arthur Levitt as state Controller. In Ohio, a Democratic candidate for the Senate won hands down while a Republican was being moved into the governor's mansion. California chose a Democrat as governor but preferred a Republican as Senator. While Oklahoma sent a Democrat to the Senate, it elected the first Republican governor in its history. Ticket-splitting was not only the order of the day on that November Tuesday; it was common practice for the largest number ever to exercise the franchise in an off-presidential year.

Before attempting to generalize these observations and to explore their implications, let us note one other fact: California Representatives Rousselot and Hiestad, avowed members of the John Birch Society, were repudiated by their districts. It is quite possible that this event is best accounted for by the pre-election gerrymandering that was the prerogative of the Democratic legislature of the state, but it is also possible that their decisive defeats indicate a kind of disenchantment with extremism, a declining tendency to be guided by the passionate simplifications of either the Left or the Right in political matters.

This notion is at least consistent with the broader interpretation that the composition of the 88th Congress is partly a result of what Daniel Bell has christened "the end of ideology." That is, the traditional issues that have been the fuel of political conflicts for over a century and that have been considered as defining the central differences between our two major parties have softly died. Republicans and Democrats alike are agreed in principle, regardless of their public rhetoric and occasional clashes over mechanics, on such matters as the active use of governmental authority for the benefit of the society's disadvantaged, the intervention of government to limit the oscillations of the business cycle, the public nature of responsibility for regional development, and many others. Social security, the rights of labor, the federal control of various forms of credit, and TVA are no longer topics that raise political hackles, either pro or con. Our present concerns are of a different order: What constitutes national wisdom with respect to nuclear testing? How can we provide an adequate supply of schools and teachers to service our growing population? How can we insure adequate medical care to our aged? Given the inevitability of the megalopolis, how can we construct and renovate cities that are beneficial places for human beings to live and work? How can we most effectively help the emerging peoples of Asia, Africa, and Latin America to realize their democratic potentialities as modern states?

In a very real sense, these questions are quite distinct from the doctrinal issues which ruled our politics in the recent past. Essentially, they are concerned with matters of fact, turning on the empirical query of how we may attain goals about which, in broad outline, consensus is available. Because the facts are often extraordinarily complex, the judgment of specialists and experts is mandatory. An opinion based on ideology approximates worthlessness, and most of us, if the technical experts disagree (as they honestly can and certainly do), quite literally don't know what to think. Even the prime problem of nuclear energy, in spite of the slightly hysterical quality one finds in the partisans on all sides of the debate, is basically a technical issue. Until the experts can tell us with some precision about the effects of fallout, our "feelings" are fundamentally irrelevant to the establishment of policy. The great questions of foreign affairs fall similarly in this class, as do virtually all aspects of military preparedness. Expertise is indispensable. As James Reston observed about the Kennedy Cabinet on the occasion of Anthony Celebrezze's joining it as Secretary of Health, Education, and Welfare, it "is a collection not of striking personalities, but of competent and industrious technicians . . . in the modern fashion . . . competent technical knowledge now heads the list of priorities."

It seems quite possible that last November's ticket-splitting at the polls was a function of our having moved, almost without awareness, from an era of ideological *positions* to one of technical *problems*. In foregoing their usual party allegiances, the voters were choosing candidates on the basis of their perceived expertise or their perceived sensitivity to the central role of expertise in contemporary affairs. While there were sure exceptions, this trend may be one that is taking over the tenor of our politics, just as it is the trend that is taking over the tenor of our intellectual life.

If this reading of things has any merit, then both legislative wisdom and political acumen may require thinking of a new kind on Capitol Hill. New thinking is especially in demand in relation to the related enterprises of science and education.

With respect to science, Congressional behavior has been marked by two characteristics—high generosity and low comprehension. If the combination has had the worthy outcome of making science in the US remarkably affluent on the whole, it has also led to some sharp inequities and has made it possible for politically knowing research agencies to follow their own leads with no necessary reference to national need. Last year, for example, the National Science Foundation filed a budget request for $358 million and received $322.5 million. The Atomic Energy Commission asked for $3.2 billion and got $3.1 billion. The National Institutes of Health fared badly: They received only $100.4 million *more* than their asking, the lowest overage in many a budgetary year! Meanwhile, the Geological Survey has been unable to win an appropriation of only $1.5 million for fundamental research in hydrology, and no action was taken by the 87th Congress on a crucial request from the Department of Commerce for a research program to apply new technological developments to civilian enterprises. Similarly, when the Office of Science and Technology was established, Congressional jurisdiction over it was located—apparently in a kind of desperation—in the Senate's Committee on Labor and Public Welfare, largely because it had been concerned, *mirabile dictu*, with the NSF, some of the functions of which were transferred to the new OST. It seems fair to say that Congress, while enthusiastic about science, knows too little about it either to supervise scientific affairs in an informed way or to make discriminatingly valid decisions when it is confronted with competing requests for funds. Such a situation is far less than optimal in an age of technical competence.

In education, the case has been quite different. Congress has been anything but generous, and it has often acted as if it were downright mistrustful. The stringent restrictions on the way in which the US Office of Education may spend its budget, for instance, contrast markedly with the flexibility rightly accorded to such an agency as the National Science Foundation or NASA; and despite the President's strong admonition ("No task before our nation is more important than expanding and improving the educational opportunities of all our people"), the refusal to revive the bill to aid public elementary and secondary schools, smothered in 1961 in religious controversy, is only one of several symptoms of Congressional tepidness toward education. Even the highly commendable elimination of the disclaimer affidavit formerly demanded of student borrowers under the NDEA was achieved almost apologetically and in an atmosphere approaching secrecy; and although such actions as maintaining low postal rates for educational materials are welcome, they hardly atone for such things as the failure to muster a quorum to approve either the extending of a 50 per cent forgiveness of NDEA loans to student borrowers who actually become teachers or the amending of the "impacted areas" program to cover large cities.

It is this lukewarm response to education on Capitol Hill that is ominous. It now seems self-evident that the entire nation suffers if it fails to cultivate its human resources wherever they exist, whether in Alabama or New Hampshire, Georgia or Oregon. The task of cultivation, therefore, is in significant part a federal one. What may not be quite so self-evident is that education is the great reservoir out of which must be drawn the technical expertise which is the greatest need of the day. That need is a national need, and its fulfillment must be vigorously and imaginatively pursued at a national level. Moreover, it is a dynamic need, the exact dimensions of which are difficult to forecast, although it is clear that they are multiplying and expanding. New kinds of experts are called into being almost daily, and our need for them is increased by a complementary need for new kinds of thoughtful men who can contribute to the humane assimilation of our burgeoning technical specialties into the over-all texture of our culture. As competence replaces ideology in our political style, education becomes more and more central in our national life.

From their voting records, it appears that some legislators are happily already aware of this state of affairs. From the ballots of last November, there seems to be evidence that the electorate at least dimly but accurately perceives it for what it is. We hope that the entire 88th Congress recognizes it and faces up to it squarely during the work it begins in this new year.—EJS

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Sex education—more avoided than neglected?

To say that sex education is the most neglected area of instruction just about everywhere would be both commonplace and at the same time a gross understatement. For sex education is not only neglected; it is actively and scrupulously *avoided*. And there are understandable though often somewhat less than sound reasons why this should be so. Meanwhile, in most of the world, with such rare exceptions as Sweden, where sex education is compulsory from kindergarten on, it is much easier to come by sexual experience than to gain accurate information about it.

Even in America, where progressive education and psychoanalysis took roots more deeply and were more widely accepted than in the European countries of their origin, sex education has fared no better than anywhere else and sometimes worse. Still, as we have been looking around, comparing educational standards and educational philosophies on the American continent with those in other parts of the world, there has been dawning upon us an ever deepening conviction that, barring a violent conservative reaction in the United States, any real breakthrough in a new approach to sex education will in all probability have to come from America.

But why should one be as exercised and concerned over the lack of sexual knowledge and instruction as we are? After all, there are many areas in which instruction is faulty and knowledge somewhat less than what might be desired. Why single out sex? Why not stress mathematics, science, or communication skills, and the development of a social intelligence and—conscience?

Repression's Consequences

The reason is that educational neglect and trouble in the sexual area are not isolated phenomena, but have a great deal to do with learning or not learning in other areas as well. The general neglect of sex education, both in the home and in the schools, is therefore more serious than any other. Sexual curiosity awakens early in the growing child, and if it is not satisfied but squashed or discouraged in one form or another, it may produce a more general intellectual inhibition or dulling of interest and set up learning blocks which are not directly related to sexuality at all. If this happens, it can seriously cripple the intellectual development of the individual and lay the foundation for later unfortunate personal limitations on creative potential, achievement, and efficiency. And this possibility omits the frequent clinical observation that thwarted sexual curiosity and an insensitive frustration of the drive for exploration and sex play in the child may lead to more serious consequences in the person's subsequent psychosexual development. In fact, there is good reason to believe that the inhibition of sexual curiosity and suppression of other early manifestations of the sexual impulse, which almost always go hand in hand, are part of the very matrix of sexual deviation and psychopathology. There is good reason to believe that the same educational and emotional neglects of the sexual development of the maturing individual contribute also a significant share to any number of other socially undesirable character formations and unhappy personal adaptations which are no less deplorable for their being generally taken for granted in our society. Sex education is, therefore, not a matter of choice or special interests, but of a more fundamental nature, especially demanding of attention in a society such as ours, which is probably more conflicted in this area than in any other.

Thus, the first thing to remember is that sex education cannot be taught in a vacuum. It cannot be a dessert on an already overcrowded educational menu, having little or no connection with what is offered in other classes. Sex education is, ideally and intrinsically, part of a core curriculum. Its subject matter consists of a kind of knowledge which can only be imparted effectively in a multidisciplined approach involving various departments and courses of study, whether on the grade school, high school, or college level.

This may be the place for a word of caution and explanation before proceeding any further with our outline of what we would consider an ideal plan for imparting sex educational information.

Misjudgments of "Love"

To begin with, when we speak of "sex education" in its more physical, biological, and psychological aspects, as we shall here be doing, we do not wish to convey the impression that our approach to sexuality is a purely materialistic or "physical" one. Nothing would be farther from the truth so far as our own thinking is concerned. We do not only consider the spiritual and love aspects of sexuality as important, but as fundamental to our topic. If we are not going to stress the affectional side of sexuality in the present context, it is only because of the complexity of the problem and to avoid confusion. Moreover, we feel that this side of the problem has been more adequately treated in literature and acknowledged in education, for example, in Erich Fromm's excellent book, *The Art of Loving* (4), which, along with other readings, we have been using in our own educational efforts. It is quite another matter that an emphasis on "love" has often been used in our society to downgrade the sexual impulse as such and that it has frequently been stressed at the expense of a more basic knowledge of the physical and psychological side of sexual behavior.

We shall, for these reasons, confine ourselves to a narrower interpretation of sex education than we might otherwise desire. Perhaps the reader can best compensate for this shortcoming by making the mental note that whenever we speak of "sex education" in its narrower sense, we mean it to be seen as part of a larger "love education"—a love education, we may add, which, if it does not come forth and bear fruit very soon, may well obviate the need for all further discussion of sex education or any other kind.

Having thus narrowed our topic to what we might call "sex education proper," we should like to draw the limitations of our discussion still more closely by focusing mainly on sex education at the high school and college levels. During the kindergarten and first elementary grades, the child is still so much subject to whatever atmosphere prevails in the parental home that sex education at this level should focus more on the parents than on the child itself. Only when this is accomplished, at least to a point, can sex education at these levels be expected to have the parental support and lasting effect which is necessary if it is to be effective and not quickly undone by sex-debasing attitudes in the home which could throw the child into a situation of conflicting loyalties and emotions.

Ideally, of course, sex education is part of a total life experience of the maturing individual, not a subject to be "taught" at some time in his later life. René Spitz, for instance, has shown by means of impressive film documentaries how the nursing mother imparts a kind of preverbal but highly important "sex education" for good or ill to her infant. The way she holds the child to the breast, the way she gives it the nipple or the bottle, the amount of direct and intimate body contact she allows the child with herself, the presence or absence of restless, frigid, or irritated behavior during the feeding or other tending of the child—all these are bound to influence the infant's feelings towards his own body, the formation of his own "body-ego," as well as his experience of the mother's body in relationship to his own.

Parental Primacy

In this manner, the nursing situation and the early physical handling of the child set a pattern for all subsequent bodily contact and the whole complex of feelings and attitudes comprised under such commonplace and apparently self-explanatory terms as *sensuality*, *eroticism*, *warmth*, and *sex appeal*. These early impressions may be so profound as to determine a person's erotic character and influence his entire personality development. If the "lessons" picked up at the dawn of individual consciousness are faulty and psychologically damaging, no amount of formal sex education at a more advanced level, save for prolonged depth therapy, can affectively undo them.

This is why we cannot stress sufficiently that sex education begins not with the child, but with the parent. The only question is how and where to start in a realistic, down-to-earth manner with such parental sex education as might give children a better start. We can hardly send every prospective parent into psychoanalysis or group therapy, even if that should be desirable in many cases. Still, one may well be able to break into the self-perpetuating round of sexual ignorance, shame, guilt, and fear at one point or other, and achieve healthy results even where adults with relatively fixed sexual prejudices and mentally unhygienic sex attitudes are concerned. There are, for instance, classes in almost all large urban centers in which not only expectant mothers, but even the least expectant fathers, are taught the rudimentary tricks of bathing a baby, putting on its diapers, patting its back for the after-meal burp, and so forth. We do not suggest that such maternity centers should include sex education in their curricula; we are not sufficiently unrealistic to believe that these centers, good as they are, could adequately provide this type of information and re-education at this time. It may be a point to keep in mind, however, for the future training of nurses, especially maternity and obstetric nurses, who should certainly have at their disposal a respectable store of factual sex information, together with a set of healthy sex attitudes and effective methods of passing both on to future generations of parents.

What has been said about the pre- and post-natal types of education holds to a certain degree for public education from kindergarten through the first few years of school life. In a society such as ours, with the emphasis still on the ultimate authority of the conventionally structured family, any attempt on the part of public education to tamper with the sex education of the very young would certainly meet, here and there, the violent opposition of unsympathetic parent groups. But once the child is old enough to have a mind of his or her own and a certain amount of discretion, it is not totally utopian to suggest that even the public schools can do a good and effective job of sex education. A few select schools, some public and some private, do so now. The conception of sex education not as an isolated subject matter, but as an integral part or essential aspect of the total curriculum, should make this task easier for the schools and should make educators less vulnerable to outside criticism and attack.

Functional Sex Education

But how would such a program of functional sex education, as we conceive it, work in actual practice? Frankly, with community attitudes such as they are, it would, even at best, be practicable only in part. Possibly a very advanced and independent private school might at present be able to put the majority of our suggestions into actual practice. But for the average educational situation on any level, we can do little more than indicate what we consider to be moves in the right direction. Still, the individual educator may find this or that point helpful and feasible in practical implementation, even if our total approach may have to remain largely theory at this point.

With these qualifications in mind, the most obvious points of contact between the traditionally taught subjects and a functional program of sex education are, of course, the natural sciences. In biology, the case is rather clear cut. Instead of stopping with the flowers or even the birds and bees, a teacher can simply go on to discuss the sex life of the higher mammals, including the human being. Unfortunately, few teachers today have the wherewithal to impart this kind of knowledge to anybody, for it is knowledge in which the teachers are often themselves woefully lacking. However, the situation here is not as hopeless as it may seem at first glance. The generally existing ignorance can easily be overcome by appropriate readings, supplemented where possible by lectures and seminars on a post-graduate level. A good beginning for those seriously interested in the problem is Ford and Beach's excellent survey, *Patterns of Sexual Behavior* (*3*), which is based mainly on the sex life of lower animals but includes serious work at the human level through the famous Kinsey studies (*6*, 7).

In chemistry, it would be fascinating to include in the curriculum, particularly at the college level, information on the chemistry of the sexual functions—for instance, the structure and function of the various hormones and the chemical interactions which accompany the processes of reproduction. In courses in physiology and anatomy (on the college level), a study of the physiology of sexual behavior should certainly be part of the areas covered. Recently, attention has been called to the need for such instruction, especially for future teachers in family life education (*1*). The same need for this type of information certainly holds for the legal, social, and medical professions, as well as for educators in general and the intelligent public.

Inhibitions on Research

An historical view of the subject would, among other things, disclose some of the social and psychological reasons why research in this field has been progressing at such an astonishingly slow pace as compared with the drive for knowledge in other branches of medicine and natural science. R. de Graef, for instance, prefaced his monumental work on female sex anatomy (*De Mulierum Organie Generatione Inservientibus*) in 1672 with a deep apology for the nature of his study. A century later, in 1748, Linnaeus (*Systema Naturae*) thought it to be "abominable" that he should have to delve into this subject for the sake of science. Fortunately, these and other scientists did "delve" or we would know even less than we do today. On the other hand, much of what these early investigators "discovered" proved inaccurate later on; for example, more reliable data on such fundamental matters as the anatomy and physiology of the female sex response have not been available until very recently, and such research can even today only be carried out under the protective cover of semi-privacy (*9*).

Complex and as difficult to obtain as this type of information is, we must find ways and means to impart it not only to the prospective teacher, but to translate it into terms and develop teaching aides which would make it accessible to the college, the secondary school, and even the primary school student. Reaching down early with accurate information on sex anatomy and physiology is all the more urgent because prejudices and private myth-making tend to intensify with every passing year that the individual lacks appropriate background knowledge, thus rendering him less and less open and receptive to the facts at a later time.

Where Teaching Fails

In our research and in discussions with scores of teachers and school administrators, we have found that where sex education bogs down most sadly is on the question of actual sexual behavior, not on the matter of theory.

We therefore advocate including in a total sex education program not only the procreative aspects of sex in general (*e.g.*, the physiology of conception, the growth of the foetus, etc.), but also the specific copulatory behavior of humans and animals. It is this type of information with which the growing child is specially concerned, and it is precisely this kind which is most zealously withheld from him, even where some degree of sex education is offered. But this type of information can be handled in a dignified and objective manner, even with younger students, provided the social and emotional conditions under which the information is given make such an approach at all possible.

For the educator who wishes to inform himself more fully in this respect, we would again refer to the Kinsey studies (*6*, 7) and to such works as the very readable two volumes of the *Encyclopedia of Sexual Knowledge* (*2*), which provide in concise, digest-like form much useful material on many aspects of human sex behavior from a physiological, sociological, and cross-cultural point of view.

It may be surprising and possibly even shocking to some that we would like the prospective teacher of sex education also to inform himself and to include in his classroom discussions certain forms of "abnormal" sexuality—for instance, homosexuality and some of the other common deviations of the sexual impulse with which the maturing individual is often deeply concerned or with which he is likely to come into contact sooner or later.

It need hardly be added that functional sex education, as we conceive of it, should and must include, without arousing anxiety, objective and accurate discussions of venereal diseases and the basic principles of their prevention and treatment. It would also, we should think, be important to find a way of mentally preparing young people of college age for the problems involved in the frequent disturbances of potency in the male and of inadequate sex response in the female so that they can be emotionally in a better position to cope with them, if they should arise, or to avoid them altogether. All this, we believe, could be accomplished without offending the sensitivities of the adolescent and young adult student wherever enlightened community and academic standards make honesty without sensationalism possible.

It goes without saying that realistic sex education must come to grips with the facts of pregnancy, both wanted and unwanted, and of the most effective measures of birth control. This should include candid discussions of the most prevalent techniques of contraception from the rhythm method to the chemistry and function of the latest oral pills. The moral questions here involved must not be avoided, but fully explored in an objective, nonsectarian way, clarifying the objections to certain birth control measures on the ground of particular religious beliefs.

Together with birth control, a number of still more troublesome problems need be looked into because they concern an ever increasing proportion of our high school and college population. Among these items in urgent need of rational examination by educators and their charges are the legal and medical aspects of voluntary termination of pregnancy (abortion), as well as its possible alternatives, particularly the legal and social situation of the unmarried mother and child. As emotionally loaded as these issues are, we would insist that they should be taken up not later than in the secondary school because it is in the younger age groups that these problems, owing in large part to prevailing social attitudes, are frequently accompanied by the most tragic and devastating consequences of all (*5*, *10*).

Curricular Integration

It is obvious that we are, as far as the average school situation is concerned, still a considerable distance away from the degree of social maturity which would permit discussions of this type. Not all aspects of sexuality and family life, however, are quite as controversial as contraception, abortion, and illegitimacy. With somewhat greater equanimity, we can approach the legal side of marriage—divorce, annulment, adoption, and similar matters—about which the public is usually very poorly informed. This lack could easily be remedied through appropriate units of instruction in the context of even conventional kinds of social science, civics, or home economics courses.

In the same manner, the traditional subjects of history and foreign languages could contribute a great deal to an integrated program of sex education. This could easily be accomplished by including a certain amount of material on the different patterns of sexual custom and family organization from one period and from one civilization to another into the subject matter of these courses. The inclusion of such items would be accepted all the more readily by teachers and students because these subjects have already become much more responsive to their cultural backgrounds and their social consequences over the past few years. Our suggestion would thus mean only a relatively small additional step in the same general direction.

In the area of literature, our schools have traditionally missed another golden opportunity for linking the physical aspects of sexuality, as emphasized by the natural sciences, with their emotional and moral correlates. What we mean is that many of the literary works which are presently studied on the secondary and college levels (and to which other useful selections could be added) contain references to sexual behavior which excel in psychological lucidity, keenness of observation, and philosophical depth, better far than the most carefully prepared case studies could possibly provide. All that is needed is the inventive employment of this type of ready-made source material instead of leaving it aside or purposely ignoring it.

Aesthetics of the Body

In the teaching of the history of art, the now generally practiced neglect or suppression of the erotic works of many of the great artists from Rembrandt and earlier to Piscasso is truly appalling. One need scarcely point out that all this material is extremely rich in sociological, historical, and psychological insight and information for those able and prepared to use it in this fashion.

The blackout of high-caliber erotic art in education is regrettable from still another point of view, that of aesthetics. Art appreciation and the development of the aesthetic sense are admittedly dependent on the individual's exposure to artistic products, for tastes can fortunately be developed and cultivated. By withholding almost all genuine examples of good erotic art from the student, we are merely assuring that he will be ignorant about *good* erotic art, but we are not preventing him from being exposed to artistically and aesthetically less satisfactory representations of sexual material or from developing attitudes of prurience. The choice is therefore *not* whether the student is to come into contact with erotic art at all, but whether his acquaintance will be with representations which elevate sexuality to the level of the religious —as, for instance, in the temple statuary of India and other works which depict the erotic side of life with charm, elegance, and good taste—or whether eroticism and sexuality will come to him merely via the glossy pin-up, the pornographic photo, and the crude sex cartoon.

In the practical teaching of the fine arts, such as drawing and sculpturing, another occasion presents itself for the instructor to instill in his students an appreciation of the beauty and dignity of the human body. It would also help them overcome the moralistic prejudices which frequently express themselves not only in a constriction of their personal lives, but in a narrowing of their artistic horizons as well.

Even physical education (and here we can reach down to the very young) provides an opportunity to introduce a certain amount of healthy social nudism in group swimming, gymnastics, and similar classes. Contrary to the general fears and prejudices in this connection, greater familiarity with each other's bodies, gained in the healthy context of shared sport and introduced early in life, would go a long way toward reducing unhealthy sex attitudes, false shame, and morbid curiosity. We would also suspect that experiences of this kind would reduce the inclination toward sexual perversion and sex crimes, as examples from other cultures than our own suggest.

With this we hope to have given at least an outline of what we would consider an adequate and integrated program of sex education, designed especially to meet the needs of the adolescent and young adult, but in principle equally applicable to much younger (or older) age groups. In *Sex Histories of American College Men* (*8*), we have made further suggestions and have tried to show the actual mechanics of such a course as taught by one of us on the college level.

What Do We Fear?

It is now time to take another look at two points made at the outset: (a) that sex education is not only neglected, but purposely avoided, and (b) that the initiative for a real breakthrough in this area will probably have to come from America.

As to why sex education is the most carefully avoided subject in the curriculum, the reasons are fairly obvious, and, when the intellectual overlay is peeled off, they all add up to one overwhelming emotion—*fear*. What does this fear consist of? We think it is essentially fear of social criticism and reprisal, based perhaps on a more primitive fear of the "mysterious" force of sex itself. But more specifically it is fear that the sexually enlightened and educated child, adolescent, or adult will want to implement and act out his sex knowledge directly in his behavior. In other words, the basic and not totally unreasonable fear is that sex education will dispel irrational anxieties about sex and lead to greater sexual freedom in conduct. This concern applies, of course, especially to adolescence, where such acting out can indeed lead to a number of unwelcome consequences, particularly as long as society insists on denying the facts of adolescent sexuality. It would, in our opinion, be much more reasonable to acknowledge that a considerable and increasing percentage of adolescents do engage in socio-sexual activities and that these activities can lead to pregnancy unless contraceptive information and devices are readily available without the risk of social condemnation. On the other hand, it would be equally ill-advised and unrealistic to regard contraception as the final solution to the problems of adolescent sexuality. To our way of thinking, few adolescents (and, sad to say, not many more adults) possess a sufficient degree of emotional maturity and sense of responsibility to handle the sexual impulse properly and sanely, a fact which becomes especially evident in the area of contraception. We would therefore strongly suggest that sex education, as we have initially indicated, be seen as a total life experience and as an emotional as well as intellectual process in which considerations of *mental hygiene* and *social responsibility* are the guiding principles throughout.

Preoccupation and Delinquency

Critics of sex education have also claimed that sex education will merely serve to focus the student's attention on sexual matters and lead to a variety of sexual delinquencies. As for the first part of this argument, we would say that the experience of our own society proves that nothing serves more to foster erotic obsession than semi-secrecy, hypocrisy, and ignorance. On the other hand, clinical experience and other research have shown that where sexuality is not surrounded by all kinds of irrational taboos, but treated casually and matter-of-factly, sexual preoccupations have little chance to develop.

As to the assertion that candidness about sex and sexual sophistication will lead to delinquency, it all depends on what is meant by "delinquency." If every social expression of adolescent sexuality is to be included under that rubric, then, of course, sex education may lead to "delinquency." If, however, a more scientific, sociological interpretation of "delinquency" is adopted, the argument becomes rather absurd. Crime and delinquency have been shown to be social phenomena determined by a multiplicity of personal, familial, and socio-economic factors, impinging on the particular and complex individual. Moreover, the vast majority of bona fide delinquents, sexual or otherwise, are not known for their superior sex knowledge or for their inner sexual freedom. Sex offenders particularly are, as a group, ironically but notoriously ignorant and prejudiced in sexual matters. In fact, in our contacts with these individuals, we have been impressed with the necessity of providing, along with other therapeutic measures, some kind of basic sexual re-education as a requirement for their constructive rehabilitation.

Having thus recognized fear of sex in general and fear of adolescent sexuality in particular as the fundamental, though not always fully acknowledged, obstacles to effective sex education, we can now turn to the more technical problems which will have to be overcome if sex education is to be put seriously on the educational map.

First of all, we should need a vigorous teacher-training program, geared not only to impart the necessary knowledge and teaching skills in this field as in any other, but to provide a degree of emotional retraining along with the appropriate academic program. We are all, to a greater or lesser extent, victims of the puritanical, quick-to-condemn and slow-to-comprehend attitudes of our society, and sexual knowledge imparted or acquired under these conditions is clearly not enough.

Quite apart from difficulties of this kind which will have to be overcome, there also exists a crying need for teaching materials of all kinds, from educational films, slides, etc., to texts, aimed at various maturity levels among students. While these needs are formidable, none of them should prove insurmountable for the educator with moral courage and the conviction that something helpful ought to be done about the present state of sex education in our schools and colleges. It is perhaps a reasonable assumption upon which most unprejudiced educators could agree that sex is not only here to stay, but that it is one of the most powerful motivating forces in human existence. Refusing to give it its proper place in the educational scheme of things can therefore only result in the perpetuation of much unnecessary personal and social misery, and in a general retardation of human understanding.

American Opportunity

As to the reason why we expect (perhaps too optimistically) a breakthrough in sex education to occur eventually in America, we offer three observations. First, as far as we can see, North America is the only place in the world, again with the possible exceptions of Sweden and Denmark, where the psychological and sociological points of view have been gradually accepted on a sufficiently widespread basis to affect public attitudes, the mass media, and official policy making. Second, teaching skills, experimental methods of instruction, and the economic means for large-scale educational experiments are nowhere as much in evidence as on the North American continent, where the atmosphere of "let's try" is often invigorating. Third, American schools are by and large more effectively secularized than the school systems of most other countries in the world.

We have no doubt over-stressed the case for an integrated and functional program of sex education on all levels of emotional maturity and learning readiness, apparently at the expense of what would appear as a more balanced educational philosophy. We have taken the risk of doing so not only because it is sometimes important to overemphasize in order to clarify the issues at stake, but also because we do not conceive of sex education or even sexual reform as ends in themselves. We regard them, rather, as fundamental to and part of an evolving new social organization and a new general ethic in which man's attitude toward his own body, his sexual impulse, and the love of one's fellow men are only important parts of a larger philosophy of social reconstruction.

If our proposals are understood in this manner, it will be clear that, once a happier balance of knowledge and a correction of basic attitudes have been achieved, sex education need no longer occupy us to the extent which is here implied. What we would hope and expect is that with a change for healthier sex attitudes and better knowledge in the community at large, sexual obsession would decrease and sexuality itself fall into its proper and socially benign and enhancing place in human affairs.

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Education and creativity

More and more research projects have been pointing up the part that education can play in the development of creative efficacy. At the University of Chicago, the studies of J. W. Getzels and P. W. Jackson (*2*) have found that, among bright students, the most highly creative ones excel in achievement to as great a degree as do the highest IQ students. This has been corroborated by E. Paul Torrance of the University of Minnesota (*23*).

This finding has kindled interest in creative performance as a criterion in the selection of "gifted" children, a supplement to the traditional criteria of IQ and teacher's preference. (Incidentally, research suggests that highly creative children are often disliked by their teachers, a fact with broad implications for educational thought and practice.) With respect to these traditional criteria, John Holland, director of research at the National Merit Scholarship Corporation, has claimed, "Generally, such measures (as IQ and teacher's preference) are moderately accurate for predicting college grades, but they have little relation to post-college achievement."[1] His organization has now embarked on a study of achievement in a group of boys and girls chosen mainly on the basis of exceptional creative performance.

Elnora Schmadel of the University of Southern California sounds a widely echoed note: ". . . the findings of this study indicate that creative thinking abilities do contribute to currently measured achievement and to measures of desirable achievement" (*20*). Similarly, Torrance argues that, "Perhaps the most promising area, if we are interested in what can be done to encourage creative talent to unfold, is that of experimentation with teaching procedures which will stimulate students to think independently, to test their ideas, and to communicate them to others" (*26*).

Research Developments

Research on the development of creative behavior has been conducted on an increasing scale ever since the presidential address of J. P. Guilford in 1950 to the American Psychological Association. He emphasized the "appalling neglect" of the study of creativity (*6*), indicating that of some 121,000 titles indexed in *Psychological Abstracts* from its beginning until 1950, only 186 were definitely related to the subject of creativity. In the summer of 1958, the Creative Education Foundation published (*15*) the first *Compendium of Research on Creative Imagination*, covering 30 research studies concerned with the identification and development of creative ability. This comprised all recent studies in the field at that time. Then,

[1] Reported in *Scholastic Teacher*, 12 Oct., 1960.

within approximately 18 months, 30 new research studies were reported and summarized in a second *Compendium*. This also listed 28 additional research projects that had just been started—about double the number apparently under way when the first *Compendium* was compiled.

A new trend was indicated by the nature of the research reported in the later *Compendium*. Until a few years ago, projects dealt mainly with the *identification* of creative talent. About half the studies reported in the second *Compendium* were devoted to the deliberate *development* of creative ability—a far cry from the bare two included in the earlier edition.

At the 1959 University of Utah Research Conference on the Identification of Creative Scientific Talent, a committee was appointed for the first time to report on "The Role of Educational Experience in the Development of Creative Scientific Talent." The committee reported that at least six research projects had indicated that creative productivity can be developed by deliberate procedures (*22*). No research yet reported is inconsistent with this view. Thus, there is a firm basis for the conviction expressed by Guilford in 1952: "Like most behavior, creative activity probably represents to some extent many learned skills. There may be limitations set on these skills by heredity; but I am convinced that through learning one can extend the skills within those limitations" (7). In the same vein, Irving Maltzman and his associates at the University of California concluded a group of research studies on originality-training by asserting that the results support the hypothesis that ". . . originality is a learned form of behavior which does not differ in principle from other forms of operant behavior" (*10*).

An illustration of the relevant evidence is the 13-year experience with a course in creative problem-solving at the University of Buffalo.[2] Two research studies have evaluated this creative problem-solving course. The first revealed that on five of seven measures of creative ability, the students who had taken the one-semester course were significantly superior to the group of matched control subjects who had not taken the course. The former group also showed significant gain on a scale devised "to assess factors of leadership ability, dominance, persistence, and social initiative" (*12*).

The second study examined the persistence or carry-over effects of the creative problem-solving courses. Results indicated that the improvement in creative productivity persisted for more than eight months after completion of the course (*20*). Criteria used in evaluation of the ideas produced included both uniqueness and usefulness.

Research into the effects of creative problem-solving programs conducted at other institutions has supported the findings (*15*, *21*). Presently, the University of Chicago is conducting several research projects on the effects of teaching creative problem-solving to governmental and industrial administrators (*8*, *9*).

Educational Programs

Since research has demonstrated that a considerable part of creative behavior is *learned*, courses in creative problem-solving have been multiplying. At the University of Buffalo, the principles and procedures taught in the elective one-semester course have also been used in special programs for groups of students in engineering, law, medicine, education, business, physics, psychology, and ROTC. Similar courses and programs, patterned after those of the University of Buffalo (*16*), have become widespread in educational institutions, in industrial organizations, in the military, and in governmental agencies (*14*).

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[2] The 140-page *Instructor's Manual* and 80-page *Student Workbook* for this course are available from the Creative Education Foundation, 1614 Rand Building, Buffalo 3, New York.

At Buffalo, students are taught the concepts in Alex F. Osborn's textbook, *Applied Imagination.* The text emphasizes the importance of imagination in all walks of life, the universality of imaginative talent, and the use of creativeness in all stages of problem-solving, from orientation to evaluation.

Perceptual, emotional, and cultural blocks to creative thinking are demonstrated and discussed in the course. Under perceptual blocks are covered such matters as the difficulty in isolating problems, difficulty from narrowing the problem too much, inability to define or isolate attributes, failure to use all the senses in observing. Under cultural and emotional blocks are emphasized the effects of conformity, overemphasis on competition or cooperation, excessive faith in reason or logic, self-satisfaction, perfectionism, negative outlooks, reliance on authority, and fear of mistakes, failure, or looking foolish.

Early in the course, students learn the principle of deferred judgment. In essence, this principle calls for the deliberate separation of idea-production from evaluation. In other words, during the effort to generate ideas, the judicial process is deliberately suspended; evaluation is deferred in order to allow full play to imagination.

To estimate the efficacy of the deferred-judgment principle as applied to individual idea-production, experimental subjects were given the task of thinking up tentative solutions to assigned problems for periods of five minutes, each student working on an individual (non-group) basis. On one problem, the students operated in the conventional way, concurrently applying evaluation as they tried to think up ideas. On the second problem, they operated in accordance with the deferred-judgment principle, deliberately postponing evaluation. The former method produced an average of 2.5 good ideas. The latter produced an average of 4.3 good ideas, criteria of quality being based on uniqueness and usefulness.

These results indicate that, for this type of creative task, a 72-per-cent better productivity can result from the deliberate deferment of evaluation during the idea-production process, a difference which is highly significant statistically (*13*, *18*). This deliberate separation of the creative and judicial functions is emphasized throughout the course.

Within the permissive atmosphere that the principle of deferred judgment provides, students are given practice in attribute-listing (learning to look at problems from a variety of viewpoints). For example, in considering other uses for such an object as a piece of paper, students are taught to look at each attribute of the paper—its whiteness, its four corners, its straight edges, etc. Each of the attributes then suggests a number of possible uses.

Check Lists

Check-list procedures are also encouraged, such as Osborn's check-list of idea-spurring questions. Students are thus taught to process a problem by means of a number of questions: How can we simplify? What combinations can be utilized? What adaptations can be made?

Forced-relationship techniques are similarly covered. For example, after a list of ideas is produced as tentative solutions to a problem, each of these ideas is then artificially related to each other idea on the list in order to force new combinations. Sometimes a somewhat ridiculous idea is taken as a starting point. By connecting the idea with the actual problem, a series of associations is produced, and this often leads in some novel direction towards a new solution of the problem.

Throughout the course, three points are stressed: the importance of taking notes (keeping a record of ideas that come to one at any and all times, rather than only while one is working on a problem), the value of setting deadlines and quotas for production of ideas, and the advantage of setting aside certain times and places for deliberate idea-production. Much opportunity is given for deliberate practice in problem-solving on a variety of problems, including many of those brought in by the students out of their personal experience.

Students are taught to sense problems in their studies, work, and throughout their lives, and to define these problems properly for creative attack. The separation of creative and judicial functions is then practiced in all stages of solution. For example, during analysis, students are taught to list every fact that could be related to the problem. After they have completed this step, they then apply judgment in order to cull out the most important facts. Students next create the longest possible list of questions and sources of additional data that could be useful. Then they go back to the judicial process of selecting the most important questions and sources of data. This procedure continues throughout the final stages of evaluation and presentation of ideas.

When it comes to evaluation, students are taught to develop the longest possible list of criteria by which to evaluate their tentative solutions. They then apply judgment in order to select the most useful ones for the purpose. Thus, the principle of deferred judgment is emphasized, both in individual and in group thinking, in all aspects of the course.

Informal procedures are utilized throughout. Chairs are arranged in a semicircle in order to encourage the maximum amount of group participation and discussion. The class is often divided into small groups in order to provide practice in team and group collaboration for the production of ideas. Students are given opportunities to serve as leaders of these small groups on various aspects of their own problems as well as on those assigned for practice.

Some Outcomes

In one of a series of studies[3] at the University of Buffalo, the research staff utilized a battery of ten measures which had previously been demonstrated by other investigators to distinguish creative from non-creative persons. These tests were given to students at the beginning and again at the conclusion of three creative problem-solving courses. These students were considered the experimental subjects (*12*). Other students, not taking the creative problem-solving course, were given the same tests at the beginning and end of the semester; they were considered the control subjects. Thus, any comparatively greater gains by the creative problem-solving students could reasonably be attributed to the course.

The experimental and control students were carefully matched for intelligence, age, sex, and time of class. For example, a bright, 20-year-old, female, day-school student in the creative problem-solving course was matched for comparison with a bright, 20-year-old, female, day-school student in another course. All of the students were told that they were participating in an experiment designed to measure changes in their thinking as a result of a semester's work at the University.

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[3] Single copies of reprints of these reports (*12*, *18*, *19*) are available from the Creative Education Foundation, 1614 Rand Building, Buffalo 3, New York.

Analyses of the results of this phase of the research included these major findings:

1. The creative problem-solving students showed substantial gains in the *quantitative* production of ideas on two tests of idea quantity. Students in the control group showed relatively insignificant gains on these tests.
2. In three tests of the *qualitative* production of ideas, the experimental subjects showed clear superiority over the control group. On a fourth test in this area, the creative problem-solving students showed improvement greater than that shown by the control students, but not sufficiently greater to be regarded as significant. The fifth measure of qualitative production showed no superiority for the creative problem-solving students.
3. Three tests were designed to measure improvement in the personality traits of *dominance*, *self-control*, and *need to achieve*. The creative problem-solving students gained substantially in dominance as a result of the course, but showed no significant changes in self-control or need to achieve. The dominance scale used is regarded by psychologists as measuring such characteristics as confidence, self-reliance, persuasiveness, initiative, and leadership potential (*4*). Other workers have previously found that dominance is a personality trait associated with creative persons (*15*).

It is significant that dominance was the single personality trait in which the creative problem-solving students showed an increase. This is the particular trait which the course methods were designed explicitly to develop.

Most of the tests designed to measure improvement in quantity and quality of ideas were based on a practical type of creative ability. Psychologists describe these tests as measuring the factors of originality, sensitivity to problems, spontaneous flexibility, and ideational fluency. It was on these tests that the students who took the course registered substantial gains.

Two of the tests emphasized a more literary type of creative ability. Students were required to create clever story titles and original plots. On neither of these tests were the gains registered by the students who took the course large enough to indicate superiority over the control students. The test requiring clever story titles, however, showed the greater gain by the course students, and a later experiment showed significant evidence of carry-over effects in this type of creative ability.

Utility for Whom?

In general, the creative problem-solving courses were found to be equally helpful to students of low and high initial creative ability, and equally helpful to those with low and high intelligence levels. This finding is in line with Guilford's conclusion that although heredity may place limitations on the skills involved in creative ability, these skills can be extended within those limitations through education.

In general, the older students (aged 23 to 51) in evening classes gained as much from the course as did younger students (aged 17 to 22) in day classes. Likewise, males and females demonstrated equivalent gains.

There is also evidence that when creative efficacy has been developed by education, the improvement endures (*19*). Matched experimental and control subjects were compared on six tests of creative ability. The experimental subjects were students who had completed the creative problem-solving course an average of 18 months prior to the experiment. The control subjects were students *registered* but *uninstructed* in the creative problem-solving course. None of the students had ever before taken the creative-thinking tests.

Course graduates outperformed two separate groups of control subjects on all six measures, including two quantity and four quality tests. All differences were statistically significant in the comparisons with one of the control groups. All but two were significant in comparisons with the second control group.

Incidentally, a popular misconception exists to the effect that the deferment-of-judgment principle is applicable only to group idea-production. The fallaciousness of this impression is demonstrated by the fact that all measurements in the studies at the University of Buffalo were made on the basis of individual thinking, not on group collaboration.

These studies have produced countless collateral data which have become available as a result of the electronic processing of the information obtained. These data are being put to valuable use. For example, further analyses have been made to discover the proportion of *good* ideas in the first half of a subject's total output of ideas *versus* the last half of his sustained effort. Findings of one such study have shown 78 per cent *more* good ideas to be among those produced in the last half than in the first half. Here, again, qualitative scoring was based on the criteria of uniqueness and usefulness. A subsequent experiment indicated a trend towards *increasingly* greater proportions of good ideas as a subject's total quantity increased. The results of both experiments were found to be statistically significant (*17*).

The above findings support Osborn's theory that in idea-production, quantity leads to quality. The results also seem to concur with William J. J. Gordon's explanation (*3*) of "deferment" in the creative process. He describes deferment as "the capacity to discard the glittering immediate in favor of a shadowy but possibly richer future." The *non-creative* problem-solver gets an idea, sees it as a possible solution to his problem, and settles for that without further ado. The *creative* problem-solver is not satisfied with his first idea. Like the person who invests money to obtain greater rewards later, the creative person foregoes the immediate reward of applying his first idea in expectation of an ultimately better solution (greater reward). A further hypothesis suggested by Osborn's and Gordon's theories is that the *best* idea will come late in the total production period. Experiments are currently being prepared to test this particular hypothesis.

Modification of Courses

In addition to the teaching of creative problem-solving *per se*, there have also been successful projects based on the integration of creative principles and procedures with conventional courses. Two outstanding examples of courses which have thus been modified are Jere Clark's economics course at the University of Chattanooga and Harry Hansen's marketing course at Harvard.

The value of such modifications has been indicated by research on the effectiveness of the similar incorporation of creative principles and procedures into courses in language arts (*24*). Also, a study by Sommers (*21*) reported that mastery of subject matter increased, along with creative ability scores, as a result of weaving creative problem-solving into existing courses.

At the University of Buffalo, pilot research has been conducted with physics students who were given a six-session condensation of the creative problem-solving course. Analysis of the data has indicated that these subjects performed better on creative ability tests than a comparable control group of physics students who had no training in creative problem-solving. Furthermore, on anonymous questionnaires given to the 55 experimental (trained) subjects, 83 per cent expressed the belief that the study of creative problem-solving should be required of physics students and others. Nearly all of the others felt that creative problem-solving should be offered as an elective. Seventy-five per cent indicated a willingness to continue the creative problem-solving sessions for the entire semester.

Several special institutes and workshops have been held regarding the integration of creative problem-solving methodologies with the teaching of other academic subjects. The first was a one-day workshop at the University of Buffalo for teachers of American history. On the West Coast, San Jose State College has taken the lead with an annual five-day Creative Education Institute which offers graduate credit. At this Institute, several hundred teachers devise ways to integrate creative methodologies within their respective subject-matter fields. Frank Williams is in charge of the program.

Education in the Future

In a recent prediction of forthcoming changes in colleges, Paul H. Davis (*1*) states, "In the last one hundred years, the medical profession has changed from folklore to science, from opinions based on hunches to judgments based on controlled experiments. Now the teaching profession is starting a similar transition." One of his predictions is that there will be less emphasis on memory and more on creative thinking.

As we all know, change is bewilderingly rapid in our present nuclear and space age—far more rapid than ever before. The discoveries and innovations of the next 20 years will probably make the previous 100 years seem to have progressed at a snail's pace. Therefore, a person cannot foresee exactly what knowledge he will need five or ten years from now to meet his life's problems. He can, however, develop the attitudes and abilities that will help him meet *any* future problem creatively and inventively.

Furthermore, we receive so much spoon-feeding in our present society in terms of how-to-do-it instructions—in school, at home, and at work—that most of us lack almost any opportunity for being creative. If this is so, we may be developing a society of "sick" people. A. H. Maslow (*11*) postulates that a person who does not have a basic need fulfilled is sick, just as a man is sick who lacks vitamins and minerals. The five basic needs to which Maslow refers are (a) physiological needs, (b) safety needs, (c) love, affection, and belongingness needs, (d) esteem needs, and (e) need for self-actualization.

Maslow emphasizes that the need for self-actualization is a healthy man's prime motivation. Self-actualization means actualizing one's potential, becoming everything one is capable of becoming. Maslow says, "What a man *can* be, he *must* be." Education can help provide for this need by building the environmental turnpikes on which the individual may drive once he has removed the mental governors that restrict his creative ability.

In Carl Rogers's terms, education can help provide the "psychological safety" and "psychological freedom" necessary to the creative individual. This does not mean license for heedless nonconformity. But it does mean complete freedom for nonconformity of *thought*, even if not for nonconformity in behavior. An old adage says, "Give me the courage to change those things that can and should be changed, the strength to accept those things that cannot be changed, and the wisdom to distinguish between the two." This then must be the creed of the creative person.

We still know little about what "creativity" really is. But we do know how to stimulate greater creative behavior in individuals. It is a matter of helping them to release whatever creative potential they possess, like removing the governor from an automobile. The individual's creative ability is frequently so repressed by his education and experience that he cannot even *recognize* his full potential, let alone *realize* it. Once he can be helped to do so, he may attain what Maslow calls "self-actualization."

Education can do much to help the individual achieve this fullest self-realization, whatever his level of native capacity. Many people seem to possess the seeds of creativeness, but the environment fails to provide the proper nourishment for growth. Therefore, these persons never fully live.

Education can provide for "creative calisthenics" to counteract this atrophying of our talents. And just as camping out can be rewarding even though we have homes, creative exercise can be rewarding even though we have access to ready-made solutions. Just as physical education does not take for granted the physical development of our students, likewise creative education must provide deliberately for their creative development. And research does seem to warrant the postulate that the gap between an individual's innate creative talent and his lesser creative output can be narrowed by deliberate education in creative thinking.

In 1948, Carl H. Grabo (*5*) wrote,

> Considering man's hostility to change and innovation . . . it is astonishing that so much of creative and imaginative genius has contrived to leave its impress on the human race. Yet who can doubt that more, habited in weak bodies, blasted early by ignorance and cruelty and superstition, has perished with no record? In our comparatively low civilization, a little is done under favorable circumstances to salvage great talent, to give it opportunity to grow and express itself. Yet how pitifully meager is our salvage and how great the waste! We know that this is so. A more civilized time than ours will strive to develop this, the greatest of all natural resources.

Let's hope that this "more civilized" day is now dawning.

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New ferment in AV

Cypher, Irene F., & Cross, A. J. F. *Audio-Visual Education.* New York: Crowell, 1961. Pp. xii + 415. $7.25.

Institute for Communications Research, Stanford University. *Educational Television: The Next Ten Years.* Stanford, Calif.: The Institute, 1962. Pp. xi + 375. $1.00.

Margulies, S., & Eigen, L. D. (Eds.) *Applied Programed Instruction.* New York: Wiley, 1962. Pp. ix + 387. $6.95.

Powell, J. W. *Channels of Learning: The Story of Educational Television.* Washington, D. C.: Public Affairs Press, 1962. Pp. x + 178. $4.50.

Wittich, W. A., & Schuller, C. F. *Audiovisual Materials: Their Nature and Use* (3rd ed.). New York: Harper, 1962. Pp. xxvi + 500. $8.75.

THE AUDIOVISUAL FIELD, like many other areas in education, is an arena in which a number of significant developments are taking place. Not only are these developments of considerable moment; they are unfolding with increasing rapidity. To a certain degree they are reflections of twentieth-century technology, but they are also rooted in the general public concern about the quality of American education and in the efforts of the federal government and certain large foundations to extend and improve educational opportunity. These developments include renewed interest and activity in research, educational television, language laboratories, overhead projection, teaching machines and programed instruction, 8mm sound motion pictures, the systems approach to teaching and learning, and the professionalization of the audiovisual specialist.

While the introduction of audiovisual materials into American education, especially motion pictures, was based on research that demonstrated their pedagogical effectiveness, audiovisual research, except in the military, declined markedly during the 1940s. With the advent of educational television, interest revived. The enactment of the National Defense Education Act, with its Title VII provision for the financial support of research and the dissemination of research findings in audiovisual instruction, resulted in the greatly increased activity in this field that has been evident during the past four years.

Today many audiovisual specialists are research minded. Like many other educators, they are engaged in investigations aimed at better ways to teach with audiovisual materials. Although they have studied many aspects of the field, they have concentrated on television and, most recently, on teaching machines and programed instruction.

Despite high enthusiasm and honest effort, results have not been all that was anticipated. Undoubtedly, original expectations were unrealistically high. Nevertheless, thoughtful critics of recent audiovisual research are realizing the old truth that good intentions and money are not enough. Competent researchers are also essential, and such personnel are in short supply throughout the educational scene.

A second major development has been the rapid and widespread adoption of television as a medium of instruction. Constantly expanding numbers of schools and colleges are providing an ever increasing amount of instruction by means of broadcast and closed-circuit television. The student body now receiving instruction by TV reaches into the millions. Within ten years, it is likely that a majority of students will be taught, at least in part, by television. Informal adult education via television is also of significant proportions. The facilities of both commercial and educational stations are being used for these purposes. Currently, there are 68 ETV stations in operation, and more than 300 closed-circuit TV installations are in use in schools and colleges. A substantial increase in ETV stations and CCTV installations appears inevitable.

A third development worth noting is the language laboratory. As soon as educators became aware of the magnetic sound recorder, they began to see ways in which it might be used. Language teachers were quick to use recorders for presenting models of good usage, proper speech patterns, and acceptable pronunciation. They also discovered that students could use recorders profitably as they practiced speaking a language. The development of language laboratories was the outcome of efforts to devise arrangements of recorders and playbacks that facilitate all phases of language instruction. Such installations are now available in many schools and colleges. Also worthy of note is the fact that the use of these installations to give instruction in subjects other than languages is on the rise.

Although overhead projection is not a new audiovisual technique, recent advances in methods for producing transparencies has created a nation-wide revival of interest in this type of projection. Because these projectors can be operated at the front of a classroom, and because the projected images are clearly visible in a normally lighted room, lecturers and demonstrators find overhead projection especially useful. Instructors from coast to coast are now making extensive use of this means for presenting information.

One may question the logic of classifying programed instruction within the audiovisual field, but one must admit that it is a most important new educational development. Since programed materials are often presented in teaching machines, many audiovisual specialists, and not a few other educators, have tended to consider these devices and materials as a part of the audiovisual domain. The leading audiovisual periodicals are principal sources of information about research and practice relating to programed instruction. The Department of Audio-Visual Instruction of the National Education Association published the first comprehensive source book on this novel technology. Major sections of DAVI's annual convention program are devoted to these matters. Even though it may not be strictly an aspect of audiovisual instruction, programed instruction is an important concern of those who work in the field.

The motion picture has long been recognized, of course, as a powerful educational medium. Recent technological achievements have made it possible to produce and show relatively high quality sound motion pictures in either black and white or in color that are on 8mm film. The simplicity in the operation of both the cameras and the projectors and the potential great reduction in costs have renewed educators' interests in using 8mm film. Although not yet commanding the attention accorded television and programed instruction, 8mm sound film promises to be a tremendously important instructional tool, and developments here bear watching.

A systems approach to teaching and learning is a new concept to most audiovisual educators. Several scholars believe, however, that through the use of existing audiovisual instrumentation and modern electronic devices for the storage and retrieval of data, it is possible to devise systems for teaching and learning that will be extremely useful in educating the rapidly expanding population of the nation. Although not yet a major development, instructional systems may become the focus of much interest and activity in the immediate future.

The professionalization of the audiovisual specialist is another highly significant development. Under the sponsorship of the DAVI, leading audiovisual specialists have been seeking to define the role they should play in schools and colleges, to identify the skills and knowledges needed to perform this role, and to establish training patterns for preparing AV specialists. Various facets of this problem have been the focus of several research studies, the work of key study commissions and planning committees, and two national seminars.

Three other developments which must be mentioned are (a) the decision of the federal government to provide financial support for the purchase of audiovisual materials and the preparation of teachers in the use of these materials as well as for research, (b) such technological developments as Telstar, which open the possibility of global ETV, and (c) the recent dispute between the American Federation of Television and Radio Artists and New York City's station WNDT. This dispute has raised a number of important questions about the relationship of AFTRA to teachers who give instruction on commercial and educational stations. The resolution of this dispute is likely to have a very important bearing on the future of educational television.

Along with these developments there has been a concurrent flood of new audiovisual publications. Two new books that are general treatments of the field are *Audio-Visual Education*, by Cross and Cypher, and the third edition of *Audiovisual Materials: Their Nature and Use*, by Wittich and Schuller. Both are designed for use as basic references in teacher education. Readers of either will become acquainted with types of audiovisual materials and equipment, their sources, their advantages and limitations, educational purposes for which they may be used, and effective methods for using them. These books are valuable additions to the existing collection of comprehensive audiovisual textbooks.

Especially useful in evaluating the past achievements and present status of educational television and in predicting and planning its future development are Powell's *Channels of Learning: The Story of Educational Television* and *Educational Television: The Next Ten Years*, published by the Stanford University Institute for Communications Research.

Powell tells the story of the establishment and development of educational television with particular attention to the roles of the Fund for Adult Education, the National Association of Educational Broadcasters, the American Council on Education, the Joint Council on Educational Television, and the several key individuals who worked through these organizations to make ETV a real and significant element in American education. In tracing the chronicle of educational television, Powell is careful to point out that the significance of his account lies in the fact that men must know where they have been in order to chart the future. Expressing high hopes that television may be used "for the revival of learning, the renaissance of intelligence, the revitalization of culture, and the communication of ideas," Powell urges his fellow Americans to try to discover ways in which these ideals may be realized. He has told an important and fascinating story.

In *Educational Television: The Next Ten Years*, Schramm and his fellow authors indicate what television should be and do in the next decade. They also deal directly and realistically with the problems of improving programs, finance, resources, and facilities. Most noteworthy are the recommendations of the Educational Media Study Panel which stress the importance of making "opportunities afforded by television . . . more readily available for education (from classroom cables to relay stations in outer space)," producing high quality programs in sufficient numbers to meet existing needs, providing for sound research and experimentation, recruiting and training needed manpower, and providing for adequate financial support. This book is a rich reservoir of information and ideas for shaping educational television in the future.

In the current spate of publications dealing with programed instruction and teaching machines, one of several books that merits careful attention is *Applied Programed Instruction*, edited by Margulies and Eigen. Recognizing that people can learn from programed instruction, the editors of this book have assembled more than twenty articles by leading authorities that deal with the practical questions of how much time and money it costs to prepare training programs for use in machines, whether teaching machines or programed books should be used, what sorts of situations are appropriate for the use of programed instruction, where and how programers should be trained, and the training time required when programed instruction is used as opposed to the time required when conventional training methods are employed. While this book presents its authors' best answers to these questions, the educator who wishes to use programed instruction in schools and colleges should remember that the bulk of the experience reflected here was obtained in industrial, business, and military training. Nonetheless, there is much of importance for those whose chief concern is the education of children and youth.

The audiovisual field, then, is a dynamic, expanding, challenging, and promising one. Its contributions to education have become increasingly numerous and important in the past two decades. Its future contributions are likely to be even more important. In order for its full potential to be realized, however, it will be necessary to recruit and train leadership and service personnel, to develop understanding and support among both laymen and professionals, to educate teachers in the effective use of these materials and methods, to provide a wealth of materials and the necessary equipment and facilities, and to provide adequate and regular financial support.

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Book Reviews

Tyler, F. T., & Committee. *Individualizing Instruction.* Sixty-first Yearbook, Natl. Soc. Study Educ. Chicago: Univer. Chicago Press, 1962. Pp. 337. $4.50.

It is 37 years since the National Society for the Study of Education last devoted a yearbook to the subject of individual differences. The earlier work raised questions concerning the limits of individualization in a system of mass instruction. The present volume, while recognizing the difficulties involved in individualizing instruction and accepting the fact that the process must go on in some sort of group setting, emphasizes the theme that, "No matter what difficulties they make for schoolmen, individual differences are real, inevitable, ineradicable, desirable, and indeed essential" (p. 316). One author calls attention to the responsibility of teachers for increasing already existing differences (p. 295).

The yearbook is well conceived. A first section deals with theoretical issues, considering "biological, social, and educational forces related to the origin and development of variation." Here Garrett Hardin discusses concisely and in a fresh way the heredity-environment system; Robert H. Beck criticizes insightfully some of the critics of conformist tendencies in American culture; Harold Shane reviews attempts to meet individual differences within the structure of the school through organization and administration as they relate to such matters as class size, promotion policies, and reporting; Fred T. Wilhelms notes that curricula are planned for groups rather than for individuals but suggests how the curriculum can be individualized; Philip W. Jackson concludes the section with a most helpful chapter on individual differences in teachers, calling for "creation of an educational climate in which the psychological complexity of *both* the student and the teacher is recognized and respected" (p. 90).

Section II gives illustrations of individual differences at three key points in the lives of individuals to be educated. Minnie Perrin Berson treats four-year-olds, Harold E. and Mary Cover Jones deal with early adolescence, while Harold Webster, Martin A. Trow, and T. R. McConnell give new information on college freshmen. The section is introduced by a wise chapter on psychological measurement by Fred T. Tyler and Walter R. Stellwagen.

The values and limitations of current school practices for individualizing instruction are discussed in Section III. Walter W. Cook and Theodore Clymer write about acceleration, retardation, and automatic promotion; John I. Goodlad treats of attempts to modify the grade structure and takes a critical look at various versions of nongrading; Robert H. Anderson deals with both fixed-class membership and intraclass groups, giving some space to team teaching and, like Goodlad, including considerable discussion of multi-age classes; Theodore Clymer and Nolan C. Kearney conclude the section, emphasizing the teacher as the key to all manner of provisions for individual differences.

In the final section implications for teacher preparation are presented by Esther J. Swenson, and Herbert W. Schooling stresses the importance of community understanding of the purpose of individualized instruction. The concluding chapter by Chairman Tyler and William A. Brownell issues a few warnings; for example:

> . . . incomplete knowledge about, or indifference to the extent of individual differences, underlies many of the unwarranted criticisms which have been leveled at modern education, criticisms which fail to take into ac-

count the true magnitude of the distance between the most capable and the least capable in the groups to be taught.

> . . . we should know a great deal more than we do about devices and procedures recommended to promote the individualization of teaching before we accord them wholesale adoption.
>
> . . . reliance upon some one kind of organization alone may lead to complacency and rigidity.
>
> . . . subject-matter content, as well as the rate of its presentation, must be adjusted to individuals.
>
> . . . in our schools we must foster both conformity and diversity, neither at the expense of the other.

In some ways the yearbook goes over familiar ground, but it is useful to have a rather rounded treatment, with sufficient historical perspective, in this one volume. There is considerable attention to new developments in school organization, which is understandable in view of the current emphasis on organizational approaches to solving educational problems. In general, the coverage reflects the increased awareness today of the complexity of human variability.

There is all too brief discussion of the kinds of individual differences being uncovered by research on creativity. The greatest disappointment, however, is lack of attention to taking the individual learner into partnership in managing his own learning, surely one of the most promising ways of meeting individual differences.

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Brubacher, J. S. *Modern Philosophies of Education* (3rd ed.). New York: McGraw-Hill, 1962. Pp. ix + 373. $6.75.

When any text appears in its third edition, that fact alone speaks for its wide acceptance by the teachers of a particular course, and this acceptance is usually based upon the accuracy, quality, and significance of the author's treatment of his subject. There is no doubt among many of his colleagues that Professor Brubacher's perceptiveness of the issues, clarity of thought, and ease of writing makes his text one of the leading ones in the field.

The current edition improves upon the previous ones of 1939 and 1950 in that Brubacher makes some attempt to extend the discussion of philosophy of education beyond the elementary and secondary schools to include higher education as well. This is a significant point. In this reviewer's opinion, a discussion on the college and university level of philosophical issues in the educational process is especially needed. It would be far more rewarding to professors on the college and university levels to discuss the issues in Brubacher's book rather than those found in Bestor and Rickover.

The basic orientation of the new edition remains the same as in the first and second editions. The relation of philosophy to education is taken to rest upon the philosophic foundations of ethics, epistemology, and metaphysics. The chapters remain basically the same, except some order of presentation has been changed from the other editions.

From the point of view of pragmatic naturalism, the text is an excellent statement of this position. I think, however, there is a challenge from other points of view which the author under-rates. He writes, "Nothing has come forward in the past decade, however, not even the development of linguistic analysis, to cause a fundamental reorganization of the basic design of this book" (p. vii). This third edition does add a brief (very brief) treatment of linguistic analysis and of existentialism. Perhaps more material could have been added here, either in an expository or critical way. And there is another issue which is evolving at present which might have received more treatment than is found in Professor Brubacher's text. The problem of the relation of philosophy to education is being raised all over again; in some quarters, it has been suggested that the term "philosophy *of* education" be dropped and a new term, "philosophy *and* education," be adopted along with a wholly new discussion of the relation of the two disciplines to each other. Sooner or later, those of us who are oriented by the approach of pragmatic naturalism must come to grips with the emerging philosophies of existentialism and linguistic analysis. This is a challenge which cannot be ignored, and in the spirit of Dewey, pragmatic naturalists will be compelled to analyze critically the new philosophies, incorporating into their own outlook what truths they expound and rejecting those elements which appear unsound.

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Warner, D. *Hurricane from China*. New York: Macmillan, 1961. Pp. ix + 210. $3.95.

It is no easy task to convince Americans that Red China is a menace to world peace. The image of China which persists in the American mind is that of a country carved up into spheres of influence by European powers in the nineteenth century, overrun by the Japanese in the twentieth, and fought for and thrown into turmoil by petty warlords between periods of foreign domination. It is a portrait of a victim rather than of an instigator of foreign and domestic power politics. China also has been, in the American conception of her, a perennial victim of natural calamities—floods, droughts, and famine. How such a country, incapable of putting her own house in order and only deserving of our sympathy if not our help, can transform herself in a generation into a threat to world peace is an implausible hypothesis which most Americans consider unworthy of attention.

Even after the communist take-over a little more than a decade ago, and despite overt acts of aggression by China ever since—in Korea, Tibet, Indo-China, Matsu and Quemoy—accompanied by an equally aggressive foreign diplomacy which reached into the Balkans, Africa, and Latin America, the earlier image of a helpless, victimized China has tended to persist. If today some Americans are willing to concede that China is a menace to Asia, they are not yet ready to accept the thesis that she is a threat to world peace itself. At best, American thought about China holds that she is still a junior member of the communist partnership without the economic and military potential that Russia possesses.

To show that such a view of China is not only inaccurate and uninformed but also dangerous to the security of the United States and the Free World is the purpose of Denis Warner's book. The "hurricane" now being spawned in China, which gives the work its title, was first mentioned in a poem written to celebrate Hate America Week in Peiping in June, 1960. According to the claims of that poem, this communist storm, which is aimed against US imperialism, will break at the appropriate hour and sweep across heaven and earth with the heroic spirit.

The "appropriate hour," according to Warner's calculations, will be in the decade of the '80s. By that time, which is only twenty years hence, China's population will have exceeded the one billion mark. It will rank third among the military powers of the world and "an easy first in militancy." In basic industrial output, it will be outranked only by the United States and Soviet Russia. This is not to say that China will have solved her economic problems by 1980. On the contrary, it is Warner's contention that despite spectacular industrial progress, China will never be able to catch up with her problems of poverty and population pressure; therefore, there is for her only one possible escape from this dilemma —"to push on as rapidly as possible with the creation of its own internal power while channeling the emotions of its people against the external antagonisms," such as US "imperialism." The Hate America campaign will therefore continue with greater intensity as China's economic difficulties mount.

What is perhaps even more alarming is Warner's thesis that China will have brought most of Asia under its influence by the 1980s. We are reminded that the West has failed so far to control China. We are also told of China's aggressive, efficient methods of "revolution by export" which are already making their impact felt in many quarters of the globe. "Exports" include not only money and materials much needed in the underdeveloped countries, but also books and magazines by the ream and emigrants by the millions, especially to the dependent areas. Although Chinese statistics are hard to come by and are not reliable, nevertheless, their scale is staggering. In Malaya, for example, 36,000 book and magazine titles streamed into the country from Peiping in a single year, 1958. In eastern and northeastern Tibet, a large-scale settlement of some five million Chinese has already taken place.

Another "export" is China's new diplomacy, conducted at the official and people's levels and aimed not only at centers of large concentrations of overseas Chinese but also at the young, new states of Southeast Asia and Africa. Trade and diplomatic missions from these areas are pouring into China, especially since 1960, attesting to its effectiveness.

Warner could be called an "alarmist" were it not for his concluding chapter, in which he discusses in sober and practical terms how the communist hurricane might be checked. He is not optimistic about stopping it at the source. He proposes instead a number of measures which the US might take in the underdeveloped areas and among the newly created states in Africa, where the American record to date is far from impressive—as in Laos.

The author, an Australian specialist in Far Eastern affairs and a frequent contributor to *The Reporter* and other American magazines, has given to Americans a critique and a perspective that only an outsider can give. He has done this, moreover, in a readable and convincing manner. In his determination to awaken America to the threat of China, however, he has all too frequently leaned over backwards to give China the benefit of the doubt where doubt exists. He does not, for example, see much likelihood in the collapse of the Russian-Chinese alliance despite mounting tension between the two. He dismisses the current food crisis in China with the observation that it is not a serious problem to a country which has weathered far greater problems before. He does not discuss at any great length the implications of China's turning to Australia and Canada for much needed grains and foodstuffs. He presents the latest figures on the communes, which are impressive, but does not consider the possibility that the Red regime may have had to compromise on its principles and "improvise" new measures in order to achieve their establishment. But these objections are of minor consequence in a book which is appropriately intended to arouse the American from his complacency about China.

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Blau, P. M., & Scott, R. W. *Formal Organizations.* San Francisco: Chandler, 1962. Pp. x + 312. $5.25.

The objective of this book is to develop a theory of formal organizations derived from and tested by empirical studies. It achieves this objective well and leaves the reader with the impression of a well integrated, systematic analysis of formal organizational problems from a sociological point of view.

One limitation of such an approach is that it necessarily restricts the discussion to points of view and data that fit the theory. Since the particular theory is in its infancy, much available data are therefore omitted. For example, the case studies used come primarily from the authors' work. Group cohesiveness is dealt with primarily in terms of Homans. The extensive work of the Michigan group (plus the offshoots) is largely ignored. The excellent discussion on the organization and the environment focuses again on the authors' own interesting empirical studies but neglects other equally useful and important inquiries (Dent, Thompson, Dill). Finally, there is very little on "scientific management" and "industrial economics," which provide the foundations for modern formal organizations.

At times, the reviewer is left with the impression that the writers could have dug further into the literature before developing certain generalizations. For example, they cite an early study by Taylor that (in their view) suggests that the group facilitates more effective problem solving. However, some newer work by the same author suggests that individuals may be more creative than groups.

Blau and Scott question Weber's theory of bureaucracy and provide new and important insights into how the theory might be tested. They also suggest a new typology of organization based upon the criterion of "who benefits." Organizations, they maintain, have different problems depending upon "who benefits" from them. Thus, "mutual-benefit" organizations are said to have different problems from "business organizations." The crucial problem of the former is to provide opportunity for participation and control by the membership, whereas the latter's crucial problem is operating efficiency. Much research will be necessary to confirm the validity of the typology. This reviewer is skeptical because there is increasing evidence, for example, that a crucial problem of trade unions is to become internally efficient (and not along democratic lines but administrative ones) at the same time that many modern business organizations are focusing on the problem of increasing the employee's degree of control and participation.

Whatever the questions one may have, however, this is an excellent, scholarly book, full of well presented, insightfully discussed data regarding such problems as the "nature and types of formal organizations," "the organization and its publics," the "social structure of work groups," "role of the supervisers," "managerial controls," and the "social context of organizational life." But still more important is its emphasis on theory building and its contribution to "organizational dynamics."

In closing, one must mention the excellent and extensive bibliography, where each reference is noted in terms of the type of study, the type of organization, and the major topic discussed.

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Weisberger, B. A. *The American Newspaperman.* Chicago: Chicago Univer. Press, 1961. Pp. x + 226. $4.50.

Bernard A. Weisberger has done the rare thing in this tightly written history of *The American Newspaperman.* He has crossed the historian's exhaustive knowledge of economic and social forces with a reporter's awareness of the human drama.

The book is too short—216 almost pocketbook pages—but, as a bonus for teachers, it is superb journalistic writing. There isn't a loose generalization or a repetitive or colorless word in the book. It is adequate in itself for a sound briefing on newspaper history, and its extensive names, dates, and subject index will serve as a useful guide to further study.

The American Newspaperman is one of the Chicago History of American Civilization Series. In his introduction, Daniel J. Boorstin, series editor, calls the newspaperman "a touchstone of American civilization," who records the daily concerns of his age in a form which survives for future historians. "For this reason," he says, "any history of the American newspaperman, like Mr. Weisberger's, cannot fail to be a history of what has interested the American people."

The book becomes also a history of what has happened to the American people as it records the shaping of newspapers by the growth of cities and suburbs, by improvements in mass production, and by the rapid and sweeping technological changes symbolized by the telegraph, the telephone, the automobile, the radio, and television.

Mr. Weisberger does better than many historians of the press in relating the newspapers, region by region and decade by decade, to the social, economic, and governmental climates in which they grew. His cross-strata historian's view strips away that stereotype of the mysterious Fourth Estate singularization of "The Press" that has limited some critiques of the field.

In 1931, when the late great New York *World* was sold into oblivion by the Pulitzer heirs, Heywood Broun said, "I wouldn't weep about a shoe factory or a branch line railroad shutting down, but newspapers are different." Thirty years later, the public and, from the page evidence, press management itself, have grown so accustomed to newspaper deaths that another merger, another one-newspaper town, scarcely makes news.

The American Newspaperman is a critical history and the author is obviously one who weeps, not with nostalgia but the apprehension that, with both the need and the opportunity for full local and world coverage increasing, America's press is doing less and less to fulfill its responsibilities.

Few newspapermen, including publishers, would quarrel with Mr. Weisberger's documentation of newspaper changes and trends. On the other hand, no publishers are likely to agree with the author's dim view of some of the effects of those changes and trends.

In his summary, Mr. Weisberger says in part: "The newspaper claimed to be the public conscience, yet it had become dependent on mass readership and could rarely risk alienating customers by prodding them as a conscience should... (It) claimed a passionate interest in freedom of information about the conduct of public matters but rarely printed a twentieth of the quantity of such information already available to it.... The newspaper claimed to be the lively literature of the commonalty, but its relentless quantitative demands filled it with banalities and formulas. To stay alive it had had to become a commercial success in an America which was awed by size and efficiency."

He suggests that if the papers are supported on nothing but market acceptance, then a change in market fashions might start them down the road to oblivion. Then he offers a hopeful forecast based on the papers' past survival record:

> ...It would be foolhardy to insist flatly that the makers and molders of journalism will never break through the limitation of the mass-communication newspaper to answer the challenges of the age. A new American newspaperman may yet emerge, wielding some unforeseen cost-cutting mechanism, reaching for some as yet unsuspected audience, shouting, shaping, innovating, and carrying on the traditions of a calling which, all in all, has had many things to boast of.

WILMA MORRISON
Portland State College
Portland, Oregon

Walcutt, C. C. (Ed.) *Tomorrow's Illiterates: The State of Reading Instruction Today.* Boston: Little, Brown, 1961. Pp. 168. $3.95.

"We are trying in this little volume to present a factual, informative survey of the reading problem—information for the interested layman about what is the matter, why it is the matter, and what can be done about it."

In detail, Dr. Walcutt, an English professor from Queens College, contributes a chapter on "The Reading Problem in America," and as his telescope views America, the "look-say" method, which teaches reading as if English were similar to the Chinese ideograph, is the enemy in focus. He quarrels first with Dr. Conant, who once said, "the bottom 30 per cent of our ninth graders read at a fifth- or sixth-grade level." Dr. Walcutt states with no thought of contradiction that it should be a "second- and third-grade level," and then offers as evidence (1) an *inadequately* dissected study in California, showing that 12-year-olds were reading on the average of 10-year-olds 20 and 40 years ago, (2) some *questionable* statistics on World War II "Americans," (3) a *single* third-grade class in Los Angeles, (4) a few *isolated* reading cases from a psychiatrist's file, (5) an *unsubstantiated* opinion of poorer social studies and history texts, and (6) a sheer *condemnation* of "readiness" as a concept and of the Dick-and-Jane books.

He cites an official method of teaching reading and says, "educationists believe in delaying instruction in phonics until the child has memorized a basic sight vocabulary of perhaps 300 words." With a year of teaching in first-grade behind me, I know this to be a false generalization, but since the years have rushed by since I taught first grade, I rushed back to check Dr. Walcutt's printed claims.

In seven different school districts throughout New Mexico during November and December of 1961, I saw, checked lesson plans, and asked 20 first-grade teachers about the teaching of phonics. To my surprise, a majority taught phonics before the words. *Everyone* taught phonics. Some that I watched taught as many as 12 letter-sounds within a 10-minute period, mostly in conjunction with Dick-and-Jane primers.

Notwithstanding the incandescent generalizations, five subsequent chapters, prepared by successful teachers of phonic systems, can be interesting and informative if one can brush aside the boring half-truths about those straw men, the look-say methods. The seventh and final chapter, the most straightforward in the book, is an excellent reference for phonic system aids and methods. Particularly noteworthy are Sister Caroline's approach to reading in San Bernardino, the famous Carden system, and the widely used Phonovisual system.

It is interesting and may be reassuring to the fearful to note that 14 of the 20 rooms visited in New Mexico displayed the "deceptively simple charts" from the Phonovisual Products Corporation described in that seventh chapter. Further, in a majority of those rooms, the chart had been purchased by the teacher.

This observation magnifies a problem in education which Dr. Walcutt serenely overlooks in his telescopic view of "The Reading Problem in America"—the lack of financial support to buy the tools required to improve instruction. The lack of books in classrooms and the short supply in school libraries are simply examples of the failure on the part of the American people to support their schools as well as they should.

Other questions which come to the mind of one gratefully trained in the phonic system but fighting persistently to offset the handicap of any single approach include these:

1. To what extent are the "success" cases described in *Tomorrow's Illiterates* a result of one-to-one and small-group teaching?
2. To what extent are some of the non-reading examples of American school systems the result of overcrowded early grades? As an example, 20 pupils in a first grade read many more times and obtain much more individualized help than pupils in classes of 30 or 40. Arithmetically, 5 per cent of a teacher's time is theoretically available for each child in classes of 20, while only 3 and 2½ per cent are available in classes of 30 and 40. The great Whitby School study and the work of Dr. O. K. Moore at Yale prove the advantages of 12-to-1 and 1-to-1 teaching situations.
3. To what extent has the crowding out of education courses by the so-called liberal-arts advocates shortened the time available for the courses in reading instruction which would equip teachers with the necessary techniques and tools of the trade?
4. To what extent are reading problems a result of poorly prepared teachers—history and English majors in college with no place to go in the business world who find the doors of certification and necessity ajar so that by default they fill the shortages in the primary classrooms of America?

Like Voltaire, I wholeheartedly support Mr. Walcutt's right to present the evidence as he perceives it, and I agree with him that the world is a better place now that his book is published. But no greater evidence can be assembled for the crucial need to educate the lay citizen of a free society more thoroughly in order to protect him from the irresponsibility and bias of some who rush too freely into print with opinion rather than knowledge.

George J. Collins
University of New Mexico

Book Notes

Ours is a strange day. Men orbit their own earth like human moons, sailing the oceans of outer space that were only wildly dreamed of when that other miracle was performed, less than 20 years ago, of unlocking the atom. Parents who first heard a radio when they were adults raise children to whom television is a commonplace. From Pericles to the end of Victoria's reign, it was reasonable to assume that one generation would live in a world essentially similar to the world of its fathers. Now the time-span for revolutionary social change is compressed into less than a third of a lifetime. Instead of the traditional pattern of adapting themselves to relatively fixed conditions, modern men must prepare for an increasing flood of novelty and change.

It is this inarguable theme that animates Malcolm S. Knowles's *The Adult Education Movement in the United States* (New York: Holt, Rinehart, and Winston. 1962. Pp. xii + 335. $5.00). Because flux has become our inevitable lot, Knowles contends that the purpose of education must shift from a primary focus on the transmission of knowledge to a fundamental emphasis on developing capacities for learning. Teaching, to be effective, must become the assisting of students in the arts and techniques of inquiry, not simply the imparting of information and traditional ideas; and the entire educational enterprise must be conceived as a lifelong process, not as a part of the socialization of the young, marked with a definite terminal point. Otherwise, man himself may become obsolescent in the face of the changes being wrought.

Knowles has an authentic vision which permits him to do two important things. First, he is able to link adult education in a meaningful fashion to the education of youth. That this accomplishment has never quite been achieved before is documented by the history of "vocational and avocational palliatives, sectarian propagandizing, and frustrated attempts to provide a program of positive human development" that have typically filled the vessel of American continuing education. Second, he is able to delineate the distinctive *modern* relevance of education for the human condition. In the development of an insatiable appetite for learning and the provision of a means for productively coping with it may lie the real salvation of men in this new era of overwhelmingly rapid change.

But for all the authenticity of its vision, *The Adult Education Movement* is a disappointing book. Dr. Knowles's method is historical, and he uses it with accuracy, clothing his scholarship in a literate if not entirely graceful style. But his emphasis on organizations, financing, and programs, while entirely legitimate, obscures both the force of ideas and the larger social, political, and economic setting in which American adult education has acquired its curiously amorphous character. It is hard to discover in the first seven chapters the bases for the stunning and imaginative views presented in the provocative eighth. Similarly, given the stress placed on learning how to learn as the major objective of education in our time, it is odd to find no references to the psychological literature on this very topic. But perhaps the sins of omission committed here can be expiated by the work of someone else, energized by the excitement of Dr. Knowles's concluding conceptions. Meanwhile, we have an informative, if rather pedestrian, history of American adult education, capped by a provocative little essay on our immediate future that deserves wide attention and thoughtfully vigorous discussion.

Ideally, it would be discussion of the kind that seems to have occurred at Corning, New York, during a long weekend in May, 1961, when 90 people came together, under the auspices of the Corning Glass Works Foundation, to consider the questions of "the extent to which the traditional ideal of the significance and dignity of the individual is vital and viable under the conditions of the emerging world: an industrial civilization." The 90 participants were varied in their accomplishments but uniform in their distinction. Julian Huxley, Roger Blough, Sir Muhammad Zafrulla Khan, Alfred Kazin, David Lilienthal, John Hersey, Henry Guerlac, August Heckscher, and Salvador de Madariaga represent but a tenth, taken quite at random, of this goodly company. Under the title of *The One and the Many* (New York: Harper and Row, 1962. Pp. xvi + 331. $6.00), the transcript of their talk has been edited with perceptiveness and knowledge by novelist John Brooks (*Pride of Lions*, *The Man Who Broke Things*). The result is a remarkable book. For Brooks has not "edited" the stenotype record of the Corning roundtables in the usual sense; rather, he has provided an apparently faithful rendering of the main ideas discussed while retaining the drama of the confrontation of different personalities and the different cultures the personalities often represented. As a result, the reader can be all but present at the improbable encounter between critic Alfred Kazin and industrialist Roger Blough on the effects of industry on culture; one can comprehend the neutrality of modern India through Mr. Frank Moraes's suave aloofness of manner as well as in his words, and one can find a highly personal enactment of East-West tensions in the interchange between Mr. Lovestone of the AFL-CIO and Mr. James Stanovnik, the director of the Institute for International Policy and Economics in Yugoslavia.

The second part of *The One and the Many* consists of essays by Charles Malik, Raymond Aron, Roger Blough, McGeorge Bundy, Kenneth Diké, August Heckscher, and Julian Hochfeld, those by Mr. Bundy and Mr. Diké dealing directly with educational problems. But in the larger sense, the entire book deals with educational problems, and no educator, whatever his stamp, can afford to miss either the intellectual stimulation or the pleasure of reading, pondering, and rereading it. If, as is likely to be the case with a conference, it lacks coherence and a susceptibility to simplification, it provides a kind of tour through the contemporary world of ideas and attitudes, and this is "travel" of the most genuinely broadening kind!

Broadening, too, if a bit grimly so, is the little volume of basic documents guiding educational reform in communist China, edited by C. T. Hu for the Classics in Education series under the title of *Chinese Education under Communism* (New York: Bureau of Publications, Teachers College, Columbia University, 1962. Pp. viii + 157. $1.50). Here is Yang Hsiu-Feng's report on "Educational Revolution and Progress, 1949-1959," the fundamental paper "On the New Democracy" by Mao Tse-Tung himself, and eight more translations of material that Westerners need desperately to be familiar with in order to understand the gigantic stirrings of one-fifth of the world's population. It seems quite clear that China's millions are being reshaped to the contours of totalitarianism through an effort that concentrates knowingly and doggedly on education and that the recent release of Chinese energies has been both directed and accounted for in large part by communist education. To read this little book is to form a new comprehension of not only China's bid for international power, but of the more general dynamism of education in the national development of have-not countries. Like science, education can be used with imagination and effectiveness for moral and political ill as well as for good.

Finally, we come to *The Sciences and the Arts: A New Alliance* (New York: Harper, 1962. Pp. x + 182. $4.75) by Harold Gomes Cassidy, a Yale chemist. Books that carry such titles can ordinarily be properly suspect. Typically, they try—often brilliantly and with a certain intellectual valor, though seldom with success—to heal the gash separating science from the arts and humanistic disciplines by pretending that the wound neither hurts nor exists. At bottom, they seem to say, science and art are the same thing, animated by the same values and leading to a common confirmation of the distinctive human spirit. But the anguish to the culture remains. Dr. Cassidy, however, says it bluntly: "Science and art are different." For him, the problem arising out of the difference is a function of different methods of communication. Science, when the data permit, expresses itself through the vehicle of the *ratio*, the essential form of the equation. When the data are not perceived as allowing the precise and quantitative terms of the ratio, then science unapologetically resorts to *analogy* as a device for communicating relationships that can be perceived but not quantified. Art may also make use of analogy, but its more characteristic language is that of *metaphor*. For their own domains, all three forms of communication have validity, and men need all three. In his efforts to show how the arts and sciences can be brought into more healthful interaction, Dr. Cassidy is not always convincing, but his attempt to deal with the cleavage in our cultural life is one of the frankest and most direct yet to be published. Reading it critically, wrestling with it, and working out one's own stance on the basis of it can provide an invigorating start to a new year!—JH&EJS

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VOLUME 64 NO. 5 FEBRUARY 1963

WILLIAM B. BALL
Harrisburg, Penna.

Of schema, hotheads, theology, and smoke

THERE HAS BEEN, PERHAPS, a greater national exertion over the Supreme Court's recent ban on official prayers in public schools[1] than ever went into the praying which came to be banned. The reason, however, is not difficult to see. However little the public has availed itself of its legal option to pray in the schools, it experienced a sense of violent shock at being told that its option had now been canceled. Similarly, it pardonably failed to grasp how that which had been sanctioned by the Constitution for a century and a half was discovered only as late as 25 June, 1962, to constitute a dangerous violation of the Constitution. Again, there had come alive a sure intuition that somehow all was not right in the process whereby the ban resulted, and that minority views had not so much been vindicated as imposed.

What did the Court decide in *Engel v. Vitale?* It declared unconstitutional the eleven-year-old practice in New York of official sponsorship in the public schools of a prayer which had been composed by the New York State Board of Regents,[2] a governmental agency. Any school district in New York was free to adopt or not to adopt the official prayer plan. Some employed it; others did not. Pupils who did not desire to recite the prayer were permitted, under the plan, to remain silent or to be excused from the room. Some parents having children in a school which adopted the practice brought suit to have the practice declared unconstitutional.[3] Losing in the courts of New York, they took their case to the Supreme Court of the United States, which, on 25 June, ruled that the practice constituted an "establishment of religion" by government, impermissible under the First Amendment[4] to the federal constitution.

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[1] *Engel v. Vitale,* —— U. S. ——, 8 L. ed. 2d 601 (1962).

[2] "Almighty God, we acknowledge our dependence upon Thee, and we beg Thy blessings upon us, our parents, our teachers, and our country."

Composed by Government?

Before there were any indications of subsidence of the chorus of dismay which greeted the decision, efforts were underway to still the public mind by enlightening it. Among the items of such well intended therapy were attempts to show that the Court never meant what it said that it meant in the offending decision. Large in this line of endeavor now loomed the "prayers-composed-by-government" theory, according to which the Court had done a most peculiar thing: In spite of the fact that in line after line of its decision it had attacked *religious practices* in public schools as unconstitutional, its decision plainly implied that the public schools still were free officially to sponsor recitation of the Lord's Prayer, the rosary, the *Te Deum* in Latin or the *Schema* in Hebrew—all because nobody on the public payroll had dreamed up the words of the prayer in question. Leo Pfeffer, writing in *Congress Bi-Weekly*[5] on 15 October, well commented upon this theory: "But this is like saying that the mere fact that a bridge collapsed under a horse does not prove that it would have collapsed under an elephant."

While undoubtedly this theory gave hope to some, it also served to hold up to ridicule leading clergymen and others who had attacked the ruling promptly upon its announcement. These were now made to appear as emotionally precipitate hotheads, hip-shooting at shadows, sounding the tocsin before finding the facts. Thus was born the "some-have-been-too-quick-to-condemn" condemnation, and it has gained much currency indeed.

Still another thought was presented to the public in relief of its distress, and it was most surprising that this advice came not from a theologian but from a lawyer—and not just any lawyer, but a justice—and not just any justice but, in fact, one who had joined in the decision banning prayer. Mr. Justice Tom Clark, addressing a Presbyterian laymen's breakfast in Larchmont, New York, on 23 September, essayed that private prayers said by children in the home are "much more effective" than prayers recited by them in public.[6] He cited impressive authority, though some might find dubious its application to the children about whom he was concerned: "The Bible tells us, 'When thou prayest, thou shalt not be as the hypocrites are . . . standing in the corners of the streets that they may be seen by man. But thou, when thou prayest, enter into thy closet and when thou hast shut thy door, pray to thy Father . . .' "

Yet in spite of all narrow interpretations, broad assurances, and spiritual advice, clamor over the decision continued strong. And a fourth sort of oil has now been poured on the choppy sea of public excitement. The point is urged that we must now wait for the smoke to clear—or, more precisely, for the Court to clear it—and that the upcoming decisions in the Lord's Prayer and Bible-reading cases will supply the key to understanding what the Court really intended in the *Engel* case. This, we may suppose, will strike some as odd, for it implies that the Court, which is said to have created confusion in the *Engel* decision, would likely dispel that confusion by writing more opinions on the same general subject.

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[3] Little publicized were a number of other parents—Protestant, Catholic, and Jewish—who filed briefs in support of the prayer practice.

[4] The First Amendment provides, in part, that "Congress shall make no law respecting an establishment of religion . . ." Long ago the Supreme Court held that this provision applied not solely to the Congress, but to state governments as well.

[5] Published by the American Jewish Congress.

[6] The New York *Times*, 24 September, 1962.

Religious Segregation

So much, briefly, for the reactions and counter-reactions to *Engel v. Vitale* which have followed its announcement. Intensive though discussions of the decision have been, its most essential implications have not generally been appreciated. While it has been said that the decision constitutes a "victory for secularism," it is not necessarily true that the elimination of prayers and like practices entails a substitution of secularism. It has been said that the decision is a "victory for religion" because it creates a bar to government's dictation of religious practices. But this is not necessarily true either; the bar may prove one not of reasonable separation of religion and the state, but of an arbitrary segregation of religion from every aspect of public life.

Actually, there is no mystery to what the Court decided in *Engel*. It said that official school prayers must go because these are official religious practices. "Official religious practices"—not just official prayers (let alone official prayers composed by government)—were the real focal point of the decision.

The significant problem posed by the decision, however, is not whether it excludes religion, but which religion it excludes. The judicial exclusion of official prayer (and of all official religious practices) from the public schools rests upon the assertion that the schools may not be sectarian and that they must be religiously "neutral." Horace Mann had wrestled with the problem of how public schools could be both religious and nonsectarian at one and the same time. He believed that he saw the answer in presentation by the schools of a sort of common core of theistic religion[7], a view which the New York Board of Regents could have asserted as providing respectable ancestry to their prayer program. President Grant, in 1875, showed himself as fearless (though not necessarily as able) upon the field of religious controversy as he had been upon the field at Shiloh. Addressing the Convention of the Army of the Tennessee, he declared:

> Resolve that neither the state nor the nation, nor both combined, shall support institutions of learning other than those sufficient to afford every child growing up in the land the opportunity of a good common school education, unmixed with sectarian, pagan, or atheistical dogmas. Leave the matter of religion to the family altar, the church, and the private school...

He spoke, it will be noted, of "pagan or atheistical dogmas." Evidently he, too, was concerned lest the departure of sectarianism from the common schools would signal a substitution of pagan or atheist values in them.

Of recent years the Supreme Court has manifested a close interest in the matter. In 1942, in the *Barnette* case,[8] in which the Supreme Court proscribed compulsory flag saluting in the public schools, Justice Robert H. Jackson referred to public education's "ideal of secular instruction and political neutrality," adding that there must neither be partisanship for nor enmity toward any "creed." He further stated that no governmental official constitutionally can "prescribe what shall be orthodox in politics, nationalism, religion, or other matters of opinion."

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[7] Mann's lecture in 1838 on "The Necessity of Education in a Republican Government" concluded with these words: "And, finally, by the term education I mean such a culture of our moral affections and religious sensibilities, as in the course of nature and Providence shall lead to a subjection and conformity of all our appetites, propensities, and sentiments to the Will of Heaven."

[8] *West Virginia State Board of Education v. Barnette*, 319 U. S. 624 (1942).

Disjunction in Thought

In 1946, as a dissenter in the celebrated *Everson* case[9] dealing with bus transportation for parochial school children, Justice Jackson stated that the public school ". . . is organized on the premises that secular education can be isolated from all religious teaching so that the school can inculcate all needed temporal knowledge and also maintain a strict and lofty neutrality as to religion." But Jackson, at this point in his opinion, seems to have had concerns about the principle he had so neatly posited, for he raised at once the question of "whether such a disjunction is possible, and if possible, whether it is wise." These, he said, he would not try to answer.

Justice Rutledge, in the same case, had no trouble with the disjunction. He envisioned public school education as embracing "a complete and permanent separation of religion and civil power." Justice Black, who wrote the majority opinion, epitomized the view in his oft-quoted statement that government may not (he spoke in the context of a school case) "aid one religion, aid all religions, or prefer one religion over another." The following year, in the *McCollum* (released time) case,[10] he was explicit. A state, he said, could not "utilize its public school system to aid any or all religious faiths or sects in the dissemination of their doctrines and ideals." Justice Frankfurter, in the same case, stressed "zealous watchfulness against fusion of secular and religious activities," and the requirement of "strict confinement of the State to instruction other than religious."

These simplistic views of Rutledge, Black, and Frankfurter, which are devoid of the residual concerns typified by the statements of Mann, Grant, and Jackson,[11] may be said to constitute the view of the Supreme Court today, finding their most extensive expression in *Engel v. Vitale*. But the small cloud on the educational horizon, the problem of instilling moral and spiritual values without bringing in religion, will not go away. Two recent events have served to give it far greater magnitude, and it now promises to bring to the educational scene new winds of controversy and new weather—but whether fair or foul, no one can now predict.

Values and Torcaso

One of the events, of course, is the *Engel* decision's premise that all officially sponsored religious exercises and practices in the public schools are constitutionally barred. It should be pointed out that there exists here a premise within a premise: If religious exercises and practices are barred, so obviously is any form of religious instruction or indoctrination. Indeed, the *McCollum* decision, in 1947, had laid it down clearly that the public schools may not be used for religious instruction, even on a released time plan.

The second event was the 1961 decision of the Supreme Court in *Torcaso v. Watkins*.[12] This case involved the refusal of a commission as notary public by the State of Maryland to an individual because he refused to comply with a requirement of that state's constitution, that he declare belief in God. The Supreme Court held that this requirement violated rights which it felt were protected by the so-called "No Establishment" clause of the First Amendment.[13] What the Court was getting at was that Maryland's test oath amounted to an establishment of religion, and that where such an establishment blocked *Torcaso's* becoming a notary, it violated his rights. But what was the nature of the rights violated? It was, according to the Court, freedom of belief and freedom of religion. Yet *Torcaso* was not a "believer" in the long accepted understanding of that term, nor had he a "religion" in the generally accepted understanding of *that* term.

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[9] *Everson v. Board of Education*, 330 U. S. 1 (1946).

[10] *Illinois ex. rel. McCollum v. Board of Education*, 333 U. S. 203 (1947).

[11] These concerns have been more and more insistently expressed during recent years as decisions by the Court have drawn an ever closer circumscription of religion in the public schools. See, *e.g.*, the NEA's pamphlet on "Moral and Spiritual Values in the Public Schools" (1951) and that by the American Council on Education, "The Function of the Public Schools in Dealing with Religion" (1953).

[12] 367 U. S. 488 (1961).

The Court was not troubled. Mr. Justice Black, at the opening of the Court's opinion, gave us to understand that there were two sorts of "believers" and that, by its test oath, Maryland was "put on the side of one particular sort of *believers*—those who are willing to say that they believe in 'the existence of God.' "[14] He went on to speak of "the *faiths*[15] of non-favored believers" (by which he meant those not believing in God), and to describe Torcaso's freedom in the case as a "*religious*[16] freedom." He concluded that Maryland could not constitutionally "aid those religions based on a belief in the existence of God as against those *religions* founded on different beliefs."[17] The Court went on to leave no doubts whatever as to what it meant by "religions" founded on beliefs other than belief in God, stating, "Among religions in this country which do not teach what would generally be considered a belief in the existence of God are Buddhism, Taoism, Ethical Culture, Secular Humanism and others."

Neutrality Banished

With this conclusion, the "religion" clauses of the Constitution take on new meaning, as do all of the cases which have interpreted those clauses. The *Torcaso* case has especially formidable implications when read in conjunction with the *Engel* decision. If the Court meant what it said in *Engel* (that religion may not be officially pushed in the public schools) and what it said in *Torcaso* (that Secular Humanism, Ethical Culture, and other bodies of non-theistic belief are religions), then the public schools are constitutionally barred from promoting Secular Humanism and other non-theistic bodies of belief. It should be noted, moreover, that the Court does not consider the term, "religion," as used in the Constitution, to mean a church, sect, or organization. In *Torcaso*, for example, the would-be notary was afforded constitutional protection by the Court, not because of his attachment to some group, but because of his supposed attachment to some belief—not because of his connection with a body, but because of his adherence to a body of *ideas*.

Of course, we must also recall that as early as 1942, the Court, in the flag salute case, had said that the Constitution barred the public schools from prescribing "what shall be orthodox" in *any* matter of opinion.

With all of this, it would seem clear that the concept of the "neutral" school has now suffered judicial banishment.[18]

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[13] See Footnote 4, *supra*. This mixing together, by the Court, of free exercise and disestablishment concepts is questionable.

[14] Italics supplied.

[15] Italics supplied.

[16] Italics supplied.

[17] Italics supplied.

[18] It is just possible, however, that the Court has not caught up with the implications of the banishment which it has decreed.

As students of philosophy have long comprehended, ideological neutrality in schools affording general education to the young never did exist, does not exist, and never will exist. And ideologies are precisely what are involved in any further discussions and litigations over the religion-in-the-schools question. The logic of this cumulative judicial result is inescapable. Take, for example, a typical course in intergroup relations in a public school curriculum. Most such courses, it should be noted, are not limited to teaching "about" intergroup relations. Rather, they seek to teach specific desired relationships; they seek to instill attitudes, mould ethical outlook, direct conduct. (All of this, incidentally, elaborated in skillfully designed courses and having behind it the full weight of the state's authority, is probably far more significant in terms of impact upon mind, conscience, and the vital workings of society than the 22 words of a prayer such as New York offered.) Moreover, courses in intergroup relations now widely in use do not content themselves with guiding attitude and action; they must, of necessity, supply motivation and rationale. This is because children want to know *why* they should behave in certain ways.[19] The "whys" are not lacking in popularly utilized courses on this topic, and very often they are framed in such terms as "because democracy demands that we do not discriminate," or "because we believe in the brotherhood of all men." Each of these "whys" states a philosophical proposition. Or, to put it in terms of the Supreme Court, they are statements of "belief." The foregoing statements are, indeed, direct representations of Secular Humanist belief. They are orthodoxies, values, prescriptions of oughtness, guides to conduct and to a way of life—*religious* concepts in the exact sense in which the Court spoke in the *Torcaso* case. Frequently, moreover, the expression of these concepts is not limited even to the social studies curriculum, but permeates the entire school program.

The all-important question then arises: May *some* orthodoxies be taught in the public schools, whereas others must be excluded? May Ideological Brand X ("Be fair to Negroes because democracy demands this") be inculcated but Ideological Brand Y ("Be fair to Negroes because they are made in God's image") be excluded? What basis could there be for choice between X and Y? God? But God is no longer necessary to an idea-complex in order that that idea-complex may be described as a "religion"!

About It and About

We are now indeed brought to the question not of whether religion shall be excluded, but of which religions shall be. The answer suggests itself at once: None can be, or all must be. And while the Court has succeeded by its recent decisions in vindicating the rights of the non-theistic, it has in these very decisions given clear standing to those who may now come before it to urge the equal protection of God.

A number of ideas are now being suggested as ways out of the religion-in-the-schools dilemma. The idea most talked about is attribution, or "teaching about" religion, as distinguished from the "teaching of" religion. The theory suggested is that religion is, after all, a part of our general culture. It should therefore be included in any curriculum which attempts to acquaint pupils with a knowledge of our civilization. It may thus be offered, according to this view, as a legitimate part of *secular* knowledge. The pupil learns *about* the various religions just as he learns about various nations. A chaste neutrality in describing beliefs, histories, personalities, and practices is, of course, enjoined.

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[19] They want to know also in matters of ordinary conduct in their day-to-day community life in school. Ethical determinations are necessarily constantly being expressed by teachers. Only the philosophically unlettered or innocent would deny that these moral conclusions are expressions of orthodoxies and are "religious" concepts in the sense in which the Court has now defined religion.

While, if carried forward in its ideal integrity, "teaching about" may win wide acceptance, there are reasons for viewing this well-intended plan with some skepticism. First, done at its best—with truly knowledgeable, perceptive, and sensitive teachers—there would be the problem of whether it was the *theistic* religions which got "taught about" and non-theistic religion which, in fact, got taught. It would be rather easy to imagine, in other words, a school's telling its pupils in effect, "Here is what Catholicism is all about; here is what Reformed Judaism is all about; here is what Lutherans believe. And here, in our course in democratic ethics, is what *we* do and what *we* believe. Here are our actual life values." There would still exist, in other words, unless non-theistic religion were also given a special, isolated classification, the danger of its enjoying a preferred position in the ongoing school life due to the fact that it would be in other ways actually inculcated although not pointedly labeled as a body of religious doctrine.

However, "teaching about," as it would probably occur in reality, would present other difficulties. For one thing, the hoped-for neutrality would prove a most elusive thing. The neutrality, it must be noted, would need to be one not merely of textbook but of instructor. And here much would depend upon emotions and personal background, to say nothing of the all-important factor of knowledge. It may perhaps be perceived that for a Catholic teacher in a public school to "teach about" the origins of the Established Church in England might be no simple feat—or, if simple, perhaps dubiously successful. Or consider the agnostic teacher who "taught about" the Catholic doctrine of Transubstantiation. Of course, the matter of value expressions would reach into many areas other than the more obviously religious. The moral crises in history, the moral monstrosities in history—how should they be described? In the history of the Jews, the persecutions under Hitler would be encountered. Should no value judgments be expressed? How would one "teach about" the experience of the Jewish people under Heydrich? More precisely, would moral judgments be made, and, if so, according to what standard, what ultimate principle? But the rendering of the judgment takes us at once from the realm of "teaching about" into the realm of "teaching of" and squarely confronts the central problem of official orthodoxies.

Chiefly, "teaching about" will never satisfy those who believe that the educational process in a democracy should be capable of according to each citizen, as a part of that process, those value expressions which are most closely congruent to his own conscientious desires. But in the sense intended by the Supreme Court in its pronouncements upon orthodoxies and religion, *all* schools undoubtedly advance given orthodoxies and promote given religions.

Democracy for Whom?

What may now be seen from the decisions of the Court in the religion-in-education cases? First and most obvious have been the rulings of the Court banishing official religions from the public schools. But each of these rulings has been based upon factual situations involving *theistic* religion. If these decisions are correct, then as a matter of logic, justice, and constitutionality, this banishment must be extended to *all* religions. This at least is one possible course of action, and its obvious effect upon the public schools would be one of virtual suffocation. This extension is therefore undesirable in a society some of whose members frankly desire secular humanist values to be imparted to their children. These parents should have the right to send their children to schools which accord with their conscientious choice. This right is meaningful only where it may be exercised without encountering an economic barrier caused by a refusal of state funds in support of such schools. Prevalent revisionist interpretations of the No Establishment clause, however, dictate such refusal. Extremist views of the "wall of separation" thus come full circle.

Extremism should not, however, dictate the course to be followed by a free and pluralistic society. Democracy must be seen, not as the imposition of a sort of official intergroup *Kultur*, but rather as a *means* whereby the most fundamental aspirations of the people are enabled to achieve realization. Then it will be concluded to be sound policy that government give economic aid to education in secular essentials in *all* schools, even though such schools also include elements which accord with the given philosophical or religious preferences of particular parents.

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Religion in education: A legal perspective

FEW CASES HAVE GIVEN the Supreme Court more difficulty and have given rise to more searching public scrutiny than those on the separation of church and state. "Probably few opinions from the Court in recent years," Justice Black has stated with regard to the decision in one of these cases, "have attracted more attention or stirred wider debate." In a country such as ours, composed, in the Court's phrase, of "a religious people whose institutions presuppose a Supreme Being," where so many religious faiths coexist and form so important a part of the life of the community, few things that the high bench does affects so intimately the daily lives of the people as its decisions on the permissible relationships between church and state.

The First Amendment, it should be emphasized, gives us more than the right to have our own beliefs reign in the private kingdom of the individual mind. It insures that we will not be penalized by the State for the particular faiths that we follow or refuse to follow. Our forebears had too much experience, both in the Old World and the New, of what it means to be discriminated against for not being a member of the established church not to have intended wholly to outlaw all power in government to continue such discriminations. Eliminated by the First Amendment is the possibility of religious tests upon which the right to vote or to hold public office may turn. The Protestant and the Catholic, the Calvinist and the Greek Orthodox, the Jew and the Mohammedan, the agnostic and the atheist, all may sit down at the common table of our councils without any inquisition into their faiths or modes of worship, or their lack of doctrines or rituals.

Exercise and Establishment

The religious freedom accorded by the First Amendment is, however, not exhausted by the right to practice one's religion free from penalty or discrimination. The First Amendment provides not only that Congress shall make no law prohibiting the free *exercise* of religion, but that it shall also make no law "respecting an *establishment* of religion." The constitutional guaranty is thus divided into two parts. In substance, it means that the State shall neither prefer nor penalize religion. As Justice Frankfurter puts it, no religion shall either receive the State's support or incur its hostility.

It is the first part of the constitutional guaranty—that forbidding governmental preference for religion—that has given the Supreme Court difficulty in recent years. "Congress shall make no law respecting an establishment of religion." What exactly does this mean? Of course, it is clear that the Congress cannot, without violating this provision, provide for an established church of the type that existed in many of the American colonies and is still functioning in England. But this prohibition of an established church by no means exhausts the scope of the "establishment of religion" provision. The First Amendment has a more penetrating reach. The difficulty is in determining just how much further the Amendment extends.

In its 1947 decision in *Everson v. Board of Education*, the Supreme Court indicated that the constitutional division between church and state was sharper than many people realized. Said Justice Black, speaking for the high tribunal there:

> The "establishment of religion" clause of the First Amendment means at least this: Neither a state nor the Federal Government can set up a church. Neither can pass laws which aid one religion, aid all religions, or prefer one religion over another. Neither can force nor influence a person to go to or to remain away from church against his will or force him to profess a belief or disbelief in any religion. No person can be punished for entertaining or professing religious beliefs or disbeliefs, for church attendance or non-attendance. No tax in any amount, large or small, can be levied to support any religious activities or institutions, whatever they may be called, or whatever form they may adopt to teach or practice religion. Neither a state nor the Federal Government can, openly or secretly, participate in the affairs of any religious organizations or groups and *vice versa.* In the words of Jefferson, the clause against establishment of religion by law was intended to erect "a wall of separation between church and State."

The "wall-of-separation" metaphor may be a striking formula, but, as with all formulas, we must take care lest it serve as a substitute for reflection and reasoning. Certainly, to paraphrase one member of the high Court, even if we agree in the abstract that the First Amendment was intended to erect a "wall of separation between church and State," that hardly tells us what it is that the wall separates. In its *Everson* decision, the Supreme Court held that the wall did not bar the State of New Jersey from providing free transportation to children attending Catholic parochial schools on the same basis as that provided to public school children.

Where Runs the Wall?

How can the Court's decision in *Everson* be reconciled with its insistence there that the First Amendment erects a wall between church and state? It insists that the "wall must be kept high and impregnable," but has it not actually permitted New Jersey to breach that barrier? The answer depends upon what is really meant by the "wall-of-separation" metaphor. Despite the contrary implication contained in it, it does not require that there be an absolutely watertight division between church and state. The First Amendment, said the high Court in 1952, "does not say that in every and all respects there shall be a separation of Church and State." What is it then that the rule about church and state prohibits? It is believed that a clue to the answer is given by that part of the First Amendment which bars government from penalizing or discriminating against religion. As has already been stated, it places the religious beliefs (or non-beliefs) of the individual outside the sphere of governmental power. But this does not mean that all matters on which religious beliefs may bear are wholly outside the sphere of government. Much that is the concern of temporal authority may also affect the spiritual interests of men. Thus, it is clear that religious belief cannot be pleaded as justification for a criminal act. The State may not penalize a man for his religion, but if he commits a crime, he cannot defend himself on the ground that his act is sanctioned by his religion. Practices opposed to the health, safety, morals, or welfare of the community may be regulated by it although such regulation may impinge upon professed doctrines of religious belief. Thus, the individual cannot claim freedom from compulsory vaccination on religious grounds. Nor can the right of a parent to have his child practice his religion freely prevail against the child labor law of a state.

The prohibition against penalizing religious beliefs, then, does not prevent the State from compelling conduct required by laws of general applicability even though the religious consciences of particular individuals may rebel. The State may proceed without discrimination against conduct deemed undesirable even though such conduct may, in the particular case, be sanctioned by religious belief. What the State may *not* do is to single out and penalize religion *as religion.*

The Enlightening Converse

But is not the converse of this also true? If the State, in applying legislation of general applicability, in a nondiscriminatory manner, happens to aid a religious or a nonreligious group, then the State is giving no prohibited aid to religion. We may take the *Everson* case as a good illustration. New Jersey was administering a general state program of aid to education, involving free transportation for school children. Those attending parochial schools were given that aid, not because they were Catholics, but because they were school children whom it was the policy of the state to assist. In other words, religion here, if aided, was not aided because it was religion, but as part of a general nondiscriminatory state program, designed to make education expeditious to all. In such circumstances, to bar the parochial school children from the state program would be to discriminate against them for their faiths. Such discrimination is, of course, not demanded by the First Amendment. It requires the State to be neutral in its relation to religious groups; it does not require it to be their adversary. A philosophy of such hostility to religion cannot be read into the Bill of Rights.

In *Everson,* religion was not singled out and aided *as religion;* hence, the fact that religion was helped along with other groups by the New Jersey law did not render that law invalid. In the 1948 case of *McCollum v. Board of Education,* on the other hand, it was religion as such that was aided by the State, and this, the high Court held, was contrary to the First Amendment. At issue was a released-time program of religious education in the public schools of Champaign, Illinois. Under it, religious instruction was given once a week in the school buildings during the regular school hours by representatives of the Catholic, Protestant, and Jewish faiths. Pupils whose parents so requested were excused from their secular classes during the periods of religious instruction and were required to attend the religious classes. Pupils compelled by the state's compulsory education law to go to school for secular purposes were thus released in part from their legal obligation on the condition that they attended the religious classes. According to the Court, this was a utilization of the tax supported public school system to aid religious groups to spread their faith. Under the Champaign program, it was religion as such that was singled out and aided. Pupils not participating in the program of religious instruction were not released from their compulsory educational duties. Secular power, therefore, was placed at the disposal of sectarian groups and of them alone. "This is not separation of Church and State."

In the more recent case of *Zorach v. Clauson*, decided in 1952, a New York City released-time program, similar in many ways to that outlined in *McCollum*, was before the high Court. The New York scheme permitted its schools to release pupils during school hours, on written request by their parents, so that they might leave the school buildings and go to religious centers for religious instruction or devotional exercises. Those not released stayed in the classrooms; and the churches reported to the schools the names of children released from the public schools who failed to report for religious instruction. This program, said the Court, differed sufficiently from that in *McCollum* to be upheld. The New York arrangements, the Court emphasized, involved neither religious instruction in public school classrooms nor the expenditure of public funds. That being the case, there was no prohibited aid to religion: "Here . . . the public schools do no more than accommodate their schedules to a program of outside religious instruction."

The Judicial Mirror

These comments briefly summarize the law on the separation between church and state as it has been articulated in the jurisprudence of the highest Court. It is true that analysis in solely legal terms can give but a partial picture with regard to a subject that has so many ramifications. At the same time, it can hardly be denied that the law plays a pivotal part in all aspects of our society. "Scarcely any . . . question arises in the United States," acutely observed de Tocqueville over a century ago, "that is not resolved, sooner or later, into a judicial question." This is as true of the relation between church and state as it is of other matters. And, if the Supreme Court has not been as certain in this area as in other fields, that should not be a source of surprise. The Court, like other institutions, tends to mirror the society in which it sits. While the nation is working out the problem of church-state relationships, the judges can scarcely be expected to speak with only one voice.

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Where angels fear to tread

THE FIRST THOUGHT that comes to mind when one is asked to discuss the education of teachers is this: What can possibly be said on the subject that has not been said a thousand times before? In view of all the print which has been used up in recent years on the question, everyone by now should know how both the school men and the academics propose to educate teachers. I am not sure I can contribute new wisdom on the subject, but perhaps there is some usefulness in presenting what I trust is a fresh point of view. By this I mean that I am neither a schoolman nor an academic, but a journalist and writer who entered the field of education through the non-professional route of service on a school board. While I am an officer of an educational organization which has taken a public stand on matters relating to the education of teachers, I prefer here to speak only for myself and to attempt to present a fairly distinct personal view rather than an inevitably less sharply focused organizational view. In other words, although I am certain that the members of the group I represent, the Council for Basic Education, are headed in my direction, I would not wish to commit them to my precise route.

I must confess at once that, in my view, the question of how the teacher should be educated is not a particularly complicated one, despite the agonizing over it in recent years. A sound basic education for the teacher is the same as a sound basic education for the lawyer, doctor, banker, salesman, or housewife. We must begin with the prospective teacher as human being rather than technician; that is, we should assume that before anything else the teacher-to-be needs to be broadly and liberally educated.

Some of the more cynical educationists (and in my opinion some of these are the most cynical people in the world when it comes to the educability of American youth) are apt to scoff at emphasis on a broad and liberal education for teachers as a futile exercise in teaching corn-fed young girls fresh from the intellectual ardors of the 4-H Club how to read Middle High German or to trace the line of literary allusion in T. S. Eliot. But if we believe in education at all, and in the teacher as the transmitting agent for education and for the common heritage of civilization, we must assume that the important things in training a teacher are to furnish him with the best thought of man in history; to stimulate in him respect for things of the mind, for intellectual activity and for the functioning of scholarship; to give him a mastery of the subject or subjects he is to teach.

Visions of Greatness

To develop this kind of intelligence and mastery, the proper curriculum for teachers consists of the liberal subjects, such as the various divisions of science and mathematics, history, languages, literature, and philosophy—subjects forming a combination of what Sir Richard Livingstone has called the two roads to knowledge, that of analysis (the sciences) and that of intuition or imagination (the humanities). These subjects can provide, in Whitehead's frequently quoted remark, "the habitual vision of greatness" without which moral education is impossible. That vision cannot be provided by courses in Group Activities in Secondary Schools or Pre-project and Pre-seminar Conferences in the Core Curriculum.

The problem, then, of how to educate teachers is no problem at all, so far as knowing what is needed is concerned. Teachers require, as do all who would be educated, long exposure to the traditional liberal arts. That knowledge of these arts is the proper professional training for teachers has always been assumed in higher education and among private schools. It is only in public education that a counter-tradition has arisen which dictates that the teacher is not qualified, no matter how extensive his academic education, unless he has been exposed to generous dosages of "professional" courses.

What in less pretentious days was called "pedagogy" certainly has a place in the training of teachers, but not in the inflated amounts common today. If we examine the certification requirements in some states, the amount of professional course work required may seem reasonable, but if we would have an accurate picture of the extent of professional courses, we must look not at state requirements but at what students, under pressure from professional faculties, actually take. A forthcoming report[1] on the education of teachers says that secondary teachers of academic subjects take an average of almost one year's work in Education, and elementary teachers devote an average of about 40 per cent of their college work to it.

How much pedagogy should there be, of what should it consist, and who should teach it? As far as amount is concerned, I have always thought that James B. Angell, president of the University of Michigan (which was a pioneering institution in introducing Education courses), had about the right idea back in 1874, when he suggested to the Board of Regents that "although experience alone can thoroughly train" teachers, it might be nice to have "some familiar lectures" at the university on "the art of teaching and governing a school." He thought that "a non-resident lecturer occupying a part of the year might meet the wants of our students" (*5*). I would gladly settle today for a few familiar lectures in place of the elaborate and repetitious structure of "professionalism" which has been built up in the last 40 years. What proportion of educational courses is useful was once suggested by Stephen Leacock (who, it should be remembered, was a successful teacher as well as a humorist) when he said that such courses are "about 10 per cent solid value and 90 per cent mixed humbug and wind" (*6*).

Pedagogical Pith

Methods courses for both elementary and high school teachers should be taught, in my opinion, by authorities in subject matter; methods of teaching English, for example, should be taught by English teachers, not by professors of "English education." Such courses should be brief, and they should be tied to specifics: They should show the student how to teach a poem or novel or short story. The procedures would be similar for elementary arithmetic or American history or geography. I suspect that the most important part of the teacher's training consists of practice teaching, carrying out the Deweyan principle of learning by doing; and I believe that the majority of teachers are apt to look upon this as the most useful part of their professional training.

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[1] According to a study by J. Koerner to be published in Boston by Houghton Mifflin this spring.

One of the troubles with professional courses is that so many of them are not actually pedagogical at all, in the sense of dealing with the principles and methods of teaching. Many teachers, especially on the elementary level, complain that their professional courses deal too much with generalities and platitudes—with what the late Harold Clapp called the care and feeding of the bulletin board—and too little with actual methods of teaching arithmetic, reading, and history. The complaint is not that there are too many "how to" courses, but that the courses do not really show you how to do it.

For instance, in the all-important field of reading instruction, there is apparently little phonetic training for future teachers, a training absolutely necessary for anyone who expects to teach children how to read. Carl Hansen, superintendent of schools in the District of Columbia, has said that present-day teachers "belong to those lost generations who went through school without systematic instruction in this field." If, as seems likely, there is to be a swing away from present eclectic methods of teaching reading and back to organized phonics, prospective teachers will need phonetic training. Such training should be given in college by scholars in language, not by reading "experts" who are often not themselves trained in phonetics.

Some pedagogical courses in their present form probably should not be taught at all. Take "guidance," for example. If I properly understand the rise of the guidance movement in this country, it was originally an attempt to help students plan appropriate academic programs, but this function has come to be overshadowed by another function, counseling in personal problems. This does not seem to me to be a proper function for school personnel, especially for the amateur Freuds who now practice guidance. If the student is in genuine need of help in his emotional or personality adjustment, he should be treated by competent persons who have been trained in the proper professional disciplines, not in the kind of guidance courses now given in teachers colleges. The nature of such courses was well summed up by Charles C. Anderson of the University of Alberta, after visiting schools of education in the American west:

> Guidance struck me as a hybrid melange of watered-down child psychology, mental health, tests and measurement, and non-practical clinical psychology. The subject never struck me as having any academic significance, and its existence presupposed that the teacher was a fool. The less distinguished the institution, the greater the proliferation of its courses in guidance (*1*).

I also have some prejudices about "educational research" as a course of study. I doubt if there is much place for courses in this subject in undergraduate programs, and on the graduate level, they have often come to mean teaching the modern paraphernalia of questionnaires, head-counting, and card-filling which goes by the name of research. There is much unnecessary research in education today; nobody believes in what his common sense tells him, but must always have it proven by elaborate "scientific" evidence. I have recently been reading a book by an educational sociologist who went to elaborate pains to "prove," among other earth-shaking things, that the job of a superintendent in a small town is different from the job of a superintendent in a big city, a "finding," surely, which any sixth grader could have provided without benefit of a foundation grant. It was a professional educator and not a sour academic who recently said, "As I watch the shenanigans that take place in our colleges of education in the name of research, I am repeatedly amazed at our capacity for self-deception" (*3*).

Empire of Cults and Trivia

I would also be willing to dispense with "child development and human growth," another "area" which has burgeoned in recent years, more as a cult than as a study. The "experts" here are the ones who indoctrinated American educators and teachers with concepts of readiness, postponement, and permissiveness, and who convinced many of them that the function of the school is not so much to teach the three Rs as it is to provide "rich, socializing experiences." Many of their doctrinaire positions— that sacred cow, "readiness," for example—have been undermined by the research of academic psychologists, but they cling to their positions and deplore the current talk about strengthening the academic program in elementary school, and wring their hands in distress at the thought of teaching five- and six-year-olds how to read.

There is, of course, little possibility that professional courses will not continue to be given, and in specialized departments and schools, manned by educationists. But if such courses are inevitable, can we not at least expect those in charge to keep them within bounds and not to tolerate trivia? There is supposed to be a fresh wind, or at least a mild breeze, blowing through schools of education these days, but I learn from a recent article in *Newsweek*, which describes the "new" Teachers College, Columbia University, that last summer several dozen students at that institution were taking courses, for academic credit, in the intricacies of the box step in Social Dance.

On a less trivial level, John H. Fischer, president of Teachers College, has recently suggested in an article in The New York *Times Magazine* that teachers should be "properly prepared" in the "appropriate use" of television, films, tapes, projectors, and recorders. I agree, but what is meant by "properly prepared"? I daresay one could learn to *operate* a projector, or even a teaching machine, in a few hours at the most; and as to their "appropriate use," isn't this chiefly something to be settled by the reflective consideration and common sense of the teacher on the job, rather than by a full-blown course in Principles of Audio-Visual Aids—which will carry just as much credit as a course in history or a foreign language? This kind of inflation of the already distended body of professional education is what makes the academics suspect the building of an empire rather than a body of truly professional knowledge.

Empire building has indeed, as is well known, marked the rise of professionalism in education in this country. It is ironic that in a land which prides itself on freedom from governmental dictation and control in education, there has been erected a vast interlocking directorate of educationists, working through schools of education, accrediting associations, certification practices, and national educational organizations—a directorate which has been able to set the tone and direction of public education. What William Chandler Bagley of Teachers College said many years ago about the power of professors of education is even more true today than when he said it:

> Collectively they are discharging func-

> tions almost analogous to those that a responsible ministry of education would discharge under a highly centralized government. In a very real sense they are determining the course that American education is taking, and in the long run this is likely to affect profoundly the course that the nation will take in the future (*4*).

The dangers of control by "the bureaucracies of large and powerful educational organizations" have been pointed out recently by former US Commissioner of Education Sterling M. McMurrin. "These bureaucracies," said Dr. McMurrin, "are just as real, and exhibit all the vices of a government bureaucracy. Their control of the schools is not beyond possibility unless their leaders are genuinely responsible to their constituents, and there is no reason for believing that such control would be any more desirable than Federal control."[2]

Some Rays of Sunlight

Fortunately, there are some indications that the "directorate" is less rigid in its view of teacher education than it was a few years ago. Some professional educators, partly through honest conversion and partly tempted by generous foundation grants, are participating in such new programs as the Master of Arts in Teaching programs, which recognize the liberal arts as the fundamental part of teacher preparation. There is, of course, constant pressure on the professionals from the public at large, which is increasingly skeptical of the necessity for that bifurcation which insists that some are just *plain*, whereas others are *professional*, educators. As Edward Gordon, head of Yale's Master of Arts in Teaching program and a "nonprofessional," has said, the use of the word *professional* in education "gives the impression that all other educators are amateurs—even though we take money for teaching. The implication is clear; the connotation of 'professional' is that knowledge is on one side and ignorance on the other."[3]

I know that my point of view about teacher training will be considered too simple and unsophisticated, even by many people who share my distaste for excessive professionalism. As I have suggested here, the essence of my position is that the heart of the teacher's preparation consists of his four-year college education in the liberal arts, a modicum of methodology taught by his instructors in academic subject matter, plus practice teaching. If this view of teacher training were to be widely accepted, it would, I am convinced, do much to attract into teaching those able students who are now repelled by the mediocrity and repetitiousness of education courses; moreover, it might help to keep out of teaching some of the horde of students with C averages who now manage to get into teachers colleges.

The nearest approach to this system that I know anything about is the teacher education program for seniors conducted at Barnard College, the purpose of which is to "recruit top-quality undergraduates for teaching in the schools and to give them a practical start in teaching as a career, with a minimum of theoretical pedagogy and a maximum of substantial subject-matter" (*2*). Here future secondary teachers (unfortunately, the program for elementary teachers has had to be discontinued) take a regular four-year liberal arts course and carry a regular academic major. In their senior year, the trainees take courses in psychology, a course in the history of education taught at Columbia, and a course in the philosophy of education, taught by the philosophy department of Barnard. In the latter, they are expected to read and discuss generous portions of the writings of the great educational philosophers—Plato, Aristotle, John Locke, Rousseau, John Henry Newman, and John Dewey. The program includes practice teaching in New York City public and private high schools and courses in the materials and methods of teaching. Up until this year, it has also included a weekly two-hour colloquium at which outstanding figures in education, representing diverse points of view, were the speakers. Granted a good student and an able liberal arts faculty, this seems to me to be the ideal way in which to train teachers at the undergraduate level. It may seem too simple to some of my readers, but its simplicity is what I like about it. (I warned at the outset that I do not consider the education of teachers to be a particularly complicated matter.)

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[2] From remarks made by Dr. McMurrin in Washington, D. C., at the annual meeting of the Council for Basic Education, 20 Oct., 1962.

[3] As quoted in the Louisville, Ky., *Courier-Journal* for 19 May, 1961.

Toward Teacher-Scholars

Let me interject here a mild protest against the now almost universal assumption that the proper pattern for all teachers in the future would include a fifth year of college training. It seems to me that sixteen years of formal education is sufficient for an intelligent and alert teacher, who, if he does possess these qualities, will continue the process of self-education throughout his life. This is not to say that a fifth (or a sixth or a seventh) year would not be beneficial, always assuming that the course work is solid fare; but I think it is a mistake to erect the five-year idea into a universal principle. Certainly, a teacher who is a wide reader and who has varied cultural and intellectual interests is a better staff member than the unimaginative note-taker who goes off religiously every summer for educational courses to make up his fifth year.

The more I brood over the question of how teachers should be educated, the more I tend to the conclusion that Education with a capital E cannot be reformed. It cannot be reformed because as an academic subject it does not really exist. Educational philosophy, educational psychology, educational history—these seem to me to be hopelessly contrived and artificial subjects. The philosophy of education, as Dewey himself maintained, is a part of philosophy and cannot be separated from it; and Sterling McMurrin says it should only be taught by those qualified to teach philosophy. This is true of the history of education, which should be taught, as part of general history, by an historian in an academic department of history. The laws of learning (if any clear-cut laws exist) and of human growth are subjects for investigation by academic psychologists and should not be compartmentalized and put in a slot marked "educational psychology."

In short, I believe the preparation, both academic and pedagogical, of teachers should be the province of subject-matter specialists. The primary aim of teacher education is, to quote Bagley again, to produce teacher-scholars "who know their subjects with a personal and passionate devotion, and whose chief aim in life is to get others to know and love their subjects." To produce such teachers we need to strengthen their natural training ground, the liberal arts college. If we would re-direct half the effort and funds now invested in "gimmicks" in teacher training towards improving undergraduate liberal education, we could make real, if unspectacular, advances in training the teachers needed for American schools.

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Evidence and the problems of teacher education

THE PROBLEMS FACING teacher education are rooted in the present state of scientific knowledge basic to our educational technology. If we agree that any institution responsible for the development of our youth must be measured against the needs they will encounter in the world of tomorrow, we certainly cannot afford to be complacent.

One clue to our situation can be seen if we but glance sideways at the present-day engineer, physician, or agricultural expert. Compared to fellow professionals of only a generation ago, these men and women perform their functions with multiplied efficiency. They draw their strength not so much from being intrinsically better people, but from being able to command more powerfully applicable knowledge.

If we look for evidence that would support a like claim for teachers, is it there? Our schools certainly are different from what they once were, and the teachers who staff them, by and large, have more education. But whether we measure the progress of children on academic achievement or creativity or personal adjustment, we find very moderate gains.

If one attends a gathering where an attempt is made to appraise the progress resulting from one or another erstwhile hope, the mood is likely to be one of disenchantment. During the past four decades the educational scene has seen the coming and going of movement after movement. There were great hopes held for the application of standardized tests. Then there was the enthusiasm for homogeneous grouping and special classes for the gifted in the 1930s, with a dismal re-run of the same story thirty years later. There was the project method, the audio-visual aids, the community school, the mental hygiene movement, and, quite recently, team teaching.

Each "new emphasis" brought with it new elements to be added to the education of teachers. Each brought some new insights. Each was documented by scores of doctoral dissertations. But we must ask the hard question: When we take a reckoning, what has been the net effect? An honest answer would say there has been only moderate improvement in our schools and our teachers; relative to our hopes, progress has been disappointingly small. In terms of the rapidly expanding needs of future generations, we have moved forward by inches when we should have covered miles.

In the education of other professional groups, especially of those which have seemed to benefit most from the pace of change, there is a complex, spiraling interaction within professional schools between research and education. The high-prestige institutions which exerted influence and which were emulated have gained stature through being research centers. The contents of their programs were expected to incorporate new knowledge almost as quickly as it was verified.

With this preamble in mind, I should like to discuss three aspects of the current educational scene which, when interwoven, provide an important texture to the education of teachers. These factors are (1) the lag between "discoveries" and "field acceptance," (2) the evidence of the effects on child behavior of various attributes of teachers, and (3) the structure of educational research programs.

Culture Lag in Education

For decades, professional educators have regaled each other by describing the mollasses-slow pace at which "new knowledge" enters the stream of professional practice. Two years after an experiment is performed, its results appear in a scholarly journal. Five years later it begins to be quoted extensively in the textbooks. Ten to fifteen years more must go by until a sufficient number of students with the new knowledge have achieved positions of sufficient prestige and influence to give the new information functional currency.

Perhaps it is time to ask why this must be so. Do lawyers wait twenty years to digest the latest Supreme Court ruling? Do dentists dawdle decades in adopting new techniques? Or, let us ask, what would his colleagues do to a doctor who continued to use high concentrations of oxygen with premature babies even six months after studies had appeared relating this practice to blindness? And, what would the farmers in his district say about a county agent who couldn't answer their questions about a new fertilizer or a new strain of seed?

We have contented ourselves by observing that educational practices are more like social mores than technological gadgets, that we are dealing in forms of culture change, not mere technique. To be sure, what happens in school is much more complex than anything that can be watched in a test tube. But can this complexity be the complete explanation of the fact that most professional meetings accord little room for reports of research or for the announcement of rigorous evaluations of new procedures? There is ample time given to glowing accounts of new ideas, to debates between the protagonists of different viewpoints, and to workshops for the sharing of opinions. But the atmosphere is one of amiable acceptance or tolerance or appreciation, rather than one of searching for hard evidence. Why?

Can it be that really teachers and administrators (and even professors) have limited expectations from research? Can it be that the disenchantment with "movements" has resulted in self-protective insulation against the arousal of new hopes? Can it be that the profession expects little from new knowledge or new evidence? Can it be that even in our best professional schools we "know" that educational research is getting nowhere?

If we thought that important change was on the way, we would be eager to find out about it. If we sensed that findings from experiments would increase our ability to achieve our objectives, we would be on hand to get the facts, to weigh them, to debate them, and to adapt them to our needs.

Of Models and Complacency

All this applies not merely to the meetings of professional organizations, but to the structure of intellectual life for both students and faculty in our professional schools. In a sense, the faculty of any professional school are the "grand old men (and women)" of the profession. They serve as role models for identification, as exemplars of values. Within our teachers colleges and colleges of education, what model do the key leaders set as far as research is concerned? How many are seen by students as taking part in careful evaluations of evidence produced by thorough experiments? How many are seen rushing over the countryside with a briefcase and a car, acting as consultants dispensing unverified ideas? How many are seen vaulting to prominence based on expertise in stimulating discussions where experience is shared but little demand is made for anything like objective evaluation of its significance?

The complacency, if not amusement, with which many professional educators accept the inevitability of lag, even while subtly contributing to it, is a major ingredient in teacher education. The values which this complacency bespeaks are transmitted to students and have a potent effect on them. It is as much an effective influence as is the content of the formal curriculum.

The expectation that scientific findings probably will be unimportant and therefore need not be sought before taking action is linked to the second major issue to which it may be well to address ourselves: To what extent ought our programs of teacher education be built in order to develop in future teachers those attributes which have an effect, a demonstrated effect, upon the growth of the children in their classes?

If one wanted to be rigorously scientific in devising an educational program for any category of personnel, one would seek answers to three questions: (1) What do these people do? (2) What attributes are causally linked to differences in how well they perform their tasks? (3) What experiences, either during the preparatory period or the in-service period, have proven effective in increasing desirable attributes?

While there might be general agreement on the general proposition that it would be well to have and to use answers to such questions, there would also be agreement that there is no immediate possibility of obtaining knowledge of this order. Only for a few highly technical military tasks, upon which funds and research talent have been generously lavished, has any training or professional education come even close to such a model.

Yet there has long been a widespread recognition of the need to determine the effects on their classes of many attributes of teachers: sex, marital status, knowledge of subject matter, leadership style, mastery of child development theory, etc. There are many articles in scholarly periodicals; papers have been read at professional meetings; dissertations have been published, and books have been written. In the very recent past, we have had reports from Ryans (*1*) of the extensive research program he supervised. The modest, almost self-deprecatory tentativeness with which he presented his findings may be partly responsible for the fact they have not had the impact which they deserved.

True, the methodological problems faced in attempting to conceptualize and to measure objectively the significant dimensions of teacher behavior are baffling in their complexity. But the availability of techniques for making audiovisual tape-recordings which can be studied and restudied is now opening new possibilities which may give us increasingly pertinent material in the future. The existence and the persistence of interest in this type of research may well prove to be one of the most fruitful aspects of the present scene in terms of ultimate effect upon teacher education. The problem at the moment resides in the fact that relatively little consideration is given to even what evidence we have when the time comes to develop curricula for teacher preparation.

Debate Without Evidence

We have been going through a period in which violent debate has raged as to what education teachers ought to have. Critics of our schools have leveled strong charges against "educationists," and they have registered complaints against certification laws requiring education courses. When certification requirements are being reconsidered, vehement groups appear to argue for more liberal arts courses, more special methods courses, or for some other favorite panacea.

Seldom in such debates does the argument depart from the level of assertions based on untested assumptions. It is all too easy to poke fun at a Rickover and point out that he would never approve the use of a pipe fitting in one of his submarines on as little proof of its effectiveness as he has accepted for his proposals about the education of teachers. But the same defect exists with respect to many items favored by experienced and respected members of the professional fraternity.

To illustrate this point, let us consider a few questions: There seems to be general accord that teacher education ought to be upgraded by moving toward five-year and six-year programs. What does objective evidence say about the comparative efficiency with which children learn in classes taught by teachers with four years of training as compared to those with five or six? The teacher-education institutions of the United States are now being accredited according to a series of standards for which high hopes are held. For how many of these standards do we have any evidence about the comparative effects on children of teachers graduated from institutions which have failed to meet the requirements as compared with those graduated from institutions well favored by accrediting bodies? If one examines textbooks in educational psychology, one finds an amazing difference in the topics dealt with. For which topics, if any, do we have firm evidence that knowledge of them results in a demonstrable difference in how the student ultimately teaches and in what effects he has on children?

If, as a practical matter, a decision has to be made when there is a lack of adequate evidence, then assertion or hunch or experience or theory or logic or compromise may provide a solution for the time being. In the present state of our knowledge, it is hardly surprising that we often must proceed on the folk-wisdom of our profession. The purpose of raising the questions posed here is not so much to embarrass anyone as to call attention to the fact that, as a matter of course, we feel comfortable with a process which largely closes the door on the utilization of what research results we have.

We can illustrate this same point from the rather typical treatment of experimental programs in teacher education. Very seldom do we find genuine experiments in the sense that equivalent groups have been given definably different treatment in order to find how this difference is related to a specified outcome in the behavior of students. Indeed, those who ask for such a research design, especially when the matter is raised *ex post facto*, are regarded as spoilsports.

Generally, what happens in fact is that when conditions in an institution are ripe for innovation, those faculty members with a zest for adventure design a program usually shaped by some theory and charged with an admixture of a predilection for certain topics and preferences for certain styles of working with students. They tend to judge the results by how good they feel about the way the students react, by the comments (usually enthusiastic) made by students, and by informal reactions relayed by later employers of the human products. Almost always, these appraisals are quite favorable. As an active participant in at least five such ventures, I endorse the process without reserve as highly enjoyable. If in this sad world one must earn a living at something, teaching in experimental programs is one of the ways that pays a bonus in fun.

For Greater Discontent

Of course, this procedure contributes some knowledge about what it is possible to do in an institution. If anyone asks how to justify an "experimental" program, two replies can be made: (1) Why should the experimental program have to prove itself objectively when the previously existing program was untested? (2) Careful reviews of educational experiments indicate that if you do test them, the experimental group always has a statistically significant edge on the control group. This is the so-called Hawthorne Effect, and you can count on it!

Then why be troubled by the fact that most educators are quite happy with present processes for either defending what now exists or producing innovations? The trouble is that really we should be somewhat uncomfortable about the shaky basis for our procedures. If we were, then perhaps there would be a demand for better information and more adequate support for the research from which it would have to stem.

This observation leads, of course, to the third issue to be considered—the structure of educational research as it affects teacher education. If one were to take as a possible model for a research center one of the famed institutes of medical research, a first-class agricultural experiment station, or, more ambitiously, the Manhattan Project, what now exists in the field of education which is comparable?

Perhaps if we reach the happy day when military secrets can be declassified, we may discover that instructional processes and the education of trainers have been studied programmatically either by one of the armed services or by a research corporation under contract to one or more of them. Confining ourselves, as we must, to centers which engage in open research, we find nothing directly for education which is comparable with any of the models mentioned.

There are research centers whose interests would impinge closely on education. For instance, there are several fairly large organizations which concentrate on research in child development. Among the research agencies in the mental health field, one also finds interest in child development and in processes of therapy, including various classroom activities. There are several groups concerned with the problems of one or more categories of exceptional children. A number of universities have nominal bureaus, institutes, or other administrative organs for educational research activities. But by and large, these are paper organizations or administrative arrangements which neither in volume of activity nor clearly focused programs match the agricultural experiment stations which often are on the same campus.

Predominantly, educational research consists of many small-scale, piecemeal, short-term studies, the vast majority geared to the realistic limitations of doctoral students. Here and there one finds a professor who is able to attract a steady enough flow of outside funds so that he can build a small team which engages in a succession of studies. Rarely is there an individual who has a strong devotion to research and whose fame redounds sufficiently to his university so that most of his time is devoted to the pursuit of a series of problems for which he can enlist the help of a succession of doctoral candidates who are attracted to him.

Wanted: Novel Resources

A problem which apparently must be faced is that if we are looking for basic findings—basic in the sense that they will have sweeping and ramifying effects—we may have to tap areas involving disciplines not always represented in our college of education faculties. It would appear that research in learning theory and in educational methods has had a disappointing payoff. The statistical tools, based largely on probability considerations, most familiar to educational research workers have led, similarly, to few major findings. We may have to turn to novel topics and develop appropriately novel tools.

What these new areas ultimately may prove to be is now a matter for speculation. To hazard some guesses, it may well be that work in psychobiology, neurophysiology, cultural anthropology, motivation, cognition, group processes, systems analysis, and applications of decision theory may have implications for education of important kinds.

If this is the case, then some means must be found to bring the requisite specialists into the picture. It is unlikely that they would now be useful enough within probable course structures to warrant appointing them to teach present education courses. Given the existing prestige considerations in their own disciplines, they are also unlikely to want to be identified as "educationists." A possible solution would be to draw them into genuine research institutes which have liaison with colleges of education.

The disciplines which would have to be represented if we enlarged the field in which we sought for the bases of educational science cannot now be completely listed. Many fine minds in a surprisingly large variety of specialties, however, have developed strong interests in problems relating to education. The recent furor about the state of our schools has had this as an interesting and potentially valuable side effect. Already we have had significant studies by "academic" psychologists and sociologists.

If our teacher-education institutions are alert to the possibilities, they can open the door for many faculty and students to gain appreciative contact with tough-minded, fact-centered approaches to vitally important issues. Almost inevitably, this sharp change would alter the dominant culture of the institution and therefore redirect its powerful influence on students.

One other phenomenon may also be a source of significant change. As the academic game is played on the faculty level in our colleges and universities, prestige tends to devolve upon individuals who are able to attract outside funds. The myth states that fund-granting organizations put their bets on individuals rather than on projects. *Ergo*, a man or woman who consistently gets research grants must be "good." Indeed, today he may rival and tomorrow even surpass the faculty member in demand as a consultant! Given the risks that skill in grantsmanship may in some cases overshadow research talent, yet, if the possibility is developed with skill, such a development in the prestige structure over a period of time may play a major role in relation to the first two issues I have tried to formulate here: how to eliminate the lag between discovery and field application, and how to base the development of our teacher-education programs on scientifically determined facts as to what a teacher does, what in teachers makes a difference to children, and how teachers can be developed with the optimum of those attributes which genuinely make a difference in actual classrooms.

In essence, then, I would urge that the future of our civilization depends upon the possibility of finding vastly more efficient and effective ways of helping our young to reach a creative, autonomous adulthood. The possibility that such ways can be found depends in turn on our being able to mount vigorous, multidiscipline, large-scale searches for basic principles and for their application. If teacher-education institutions play a direct and major role in the development of the necessary research machinery, the net effect on their own operations may far overshadow many of the reforms and innovations with which we are now tinkering. Yet, to the extent that such tinkering is motivated by a genuine desire to develop new knowledge, it can pave the way for the more fundamental changes which can and *must* occur.

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Academic standards and professional demands

THERE HAS BEEN MUCH careless talk about raising standards in teacher education. No responsible discussion of this matter is possible except in direct relationship to specific and immediate considerations of teacher supply. Officials in the schools will, willy-nilly, hire good teachers if they can, poor teachers if they cannot; the one thing they cannot do is close school because of an inadequate supply. The pipe will be filled; while teacher-education institutions may influence the nature of the material siphoned into it, the schools themselves are the source of power in this relationship.

The responsibility of teacher-education institutions is to produce enough teachers to man the posts. This is an absolute requirement; the jobs in the schools *must* be filled. It is not possible to wait until the profession is upgraded, the educationists thrown out of control, the NEA destroyed, or salaries increased to $10,000 a year. This immutable fact reflects certain historical realities in the evolution of formal education in the modern world.

In ancient Athens it was the father who made arrangements for his son's schooling, and it was public opinion and custom rather than law that caused him to do so. Formal education in the twentieth-century world, on the other hand, is under the eye of the state. The nations of the world agree that the state shall finance and enforce basic education to the extent that all of the young shall have been taught reading, writing, counting and computing, the major traditions of their nation and civilization, and the basic responsibilities of citizenship. There is no nation today which does not accept this educational charge and which is not engaged in systematic effort and expenditure to implement it. The differences among nations primarily involve questions about how much education is to be provided under state auspices, and decisions are governed as much by finance as by ideology. How extensive basic education is to be is determined largely by how much money is available. Another determiner, however, is manpower needs. One reason for the lack of enthusiasm for education beyond the fourteenth year in the United States one hundred years ago was the need of farmers for the labor of their children, who, when they were 15 years old, could come close to doing a grown man's work on the farm. Now in the United States, young people are not readily welcomed in the labor market until they are 18 years of age. Many other nations are more inclined than we to admit 15- and 16-year-olds to the working force. This has a direct bearing upon the length of schooling and, thus, a direct bearing upon the demands for school facilities and personnel.

American Schools Peculiar

A peculiarity of the American lower schools—one which has caused no end of confusion in public debate—is that the American 12-year plan actually does not include a secondary school in the European sense. We have no leaving examinations at any point; we have legally enforced attendance through the tenth year, and national policy is to keep all young people in the school through the twelfth year. The American primary school is, in effect, a 12-year common school for all the children of all the people. "High schools" must adjust their programs to accommodate satisfactorily the entire population. It is unfortunate to think of them as secondary schools; this is not their function in the United States.

Secondary education as it has traditionally been represented in the Western world by institutions like the French *Lycée*, the German *Gymnasium*, or the English Public School is, in the United States, the function of the institution referred to as the college. These secondary schools, which Americans call colleges, accept young people who have completed the 12-year elementary school and have a diploma to show for it. They are of a wide variety of types. Some are connected with universities. Others exist as self-contained institutions. Many are located in smaller cities and villages where the buildings and grounds have the atmosphere of one of the English Public Schools. Some are maintained by states and municipalities; these are frequently much larger than the private colleges in the small towns and villages and are patronized by commuting students rather than boarders.

The government does not enforce attendance at these secondary schools. Although some scholarships are available, almost without exception, the American secondary schools (called colleges) are fee-charging. Different colleges cater to different socio-economic, cultural, and religious groups. They set their own entrance requirements, the only common standard being completion of the 12-year school. In the United States the baccalaureate, comparable to the French *baccalauréat* or the German *Abitur*, is awarded at the end of a four-year course in one of the colleges. These courses are voluntary or optional rather than required, and the government refrains from making stipulations regarding the preparation of teachers for the colleges.

Demands for Primary Teachers

It follows, then, that the demands placed upon teacher-education authorities are to staff an institution which relieves all parents of their children for six or seven hours a day for nine or ten months a year from the time when the children are five or six years of age. The institution keeps these youngsters out from under the feet of their parents and also out of the labor market until they are about 18 years of age. The not insignificant political power of American mothers assures the maintenance of the lower age barrier; the power of organized labor supports the upper one. A fundamental task of the schools is to keep this entire segment of the population in a compound for 12 years. A primary purpose of school curricula is to keep these young people busy, draining off enough energy so that peace may be maintained within the compound. That it has not been necessary to use tear gas and machine guns to enforce school attendance is an indication of the efficiency of the common schools. That school riots are rare can give pride to those who have been involved in the training of teachers.

For the drive for liberty, especially among 12- to 18-year-olds, is very high. Yet American teachers manage to keep them inside the compound although forbidden to carry side-arms. Understandably, the custodial duties necessarily imposed upon adults who maintain the compound involve difficult, dirty, spirit-breaking work. Some time ago a good friend of mine who has spent his life in education discussed the desire of a vigorous, alert, competent young woman of whom he is very fond to enter high school teaching. His remark was, "I don't want her to do it. It's—it's butchery!"

As in instances of other types of extremely gruelling work, teaching in the common schools sometimes produces personalities of strength and beauty. But many simply cannot take it, and emotional and spiritual collapse ensue.

During the decades of the nineteenth century, when six or eight rather than 12 years of compulsory school attendance was the rule in this country, the individual states and the larger city school systems maintained their own training institutions for teachers. These were the normal schools, and they did not pretend to be colleges or universities. Their work was in the nature of a scheme of formalized apprenticeship lasting for one or two years. Prior to the early 1900s, persons who had completed not more than eight years in the American primary schools were admitted to these teacher-training institutes. By 1920, however, it had become customary to require completion of the 12-year school for admission, and the decline of the normal schools closely paralleled the effective upward extension of the American primary school to provide a 12-year program for all boys and girls.

Upon the disappearance of the normal schools and teacher-training institutes, it became necessary for those concerned with teacher education to operate within the established framework of higher education. In the struggle for acceptance, the prestige of the established academic disciplines carried power with it. Professors in the teachers colleges had to be doctors of something or other, and those who completed courses of study with them had to be masters—if not of letters or arts, of education. And, of course, all teachers in all schools had to be college graduates.

Academic Schizophrenia

Thus, today, the teachers in the schools for the masses must be prepared in institutions of higher education, the traditions of which are more aristocratic than equalitarian, while those engaged professionally in teacher education are marked as peculiar members of the academic community. Indeed, they are prime examples of academic schizophrenia. They hold rank in the ancient fraternity; they participate in the ceremonies which demonstrate the centuries-old origins of higher education. Yet they fraternize with members of a lowlier union,"... the abominable schoolmasters . . . abhorred alike by boys and girls," who have been the butt of ridicule ever since Martial thus characterized them. Historians, mathematicians, scientists, and literary scholars do not meet regularly with the teachers in the common schools. It is not that they are inhumane nor illiberal. They are simply more interested in refinement and the perfection of their arts, surrounded by young disciples, than in the broad dissemination of the utilitarian and more immediately significant applications of them throughout the populace.

Those who profess education in the colleges and universities are, then, heirs of a dual tradition. So long as teachers for the public schools are trained in colleges and universities, this situation will continue. A complete reconciliation is not possible. Nor can the professor of education be all things to all men. As a representative of higher learning, he is obligated to uphold standards of rigor in research and scholarly mastery. His high loyalty is to the truth. But as a representative of the lower schools, he is obligated to produce teachers to man the posts.

And manning the posts is the primary responsibility of teacher-education institutions in the national system of 12-year schools. The only method for providing quality control while fulfilling this primary responsibility lies in the adoption by various State Departments of Education of production quotas for training institutions. The contract, standing as a part of the document which certifies the approval of an institution by the state as a teacher-training center, should be formalized by the principals—that is, the state on the one side, the institution on the other. Production of teachers by an institution should be limited according to the terms of its contract with the state. Quotas can be computed on the basis of statistical projections of teacher needs. An institution failing to meet its contractual obligation should, of course, be removed from the list of teacher-training centers recognized by the state. A system of teacher-education scholarships might well support such a quota system, but would not be a necessary condition of its operation.

Demands and Standards

Some such arrangement would force institutions to commit themselves regarding policies of admission and in-process evaluation of candidates for teacher certification. Institutions would remain completely free to set academic standards as they wished. In the light of their standards, however, they would commit themselves to produce a certain number of qualified teachers to fill jobs in the schools. Individual college scholarship programs, admissions requirements, and requirements for graduation would certainly be heavily influenced by considerations surrounding the contract with the state. In instances where a rise in college costs or application of more stringent entrance requirements resulted in failure of the institution to meet its contract, local institutional policy would have to involve realistic weighing of alternatives: "Shall we notify the state that we wish to take a smaller part in the production of teachers for its schools, or shall we alter our standards to make it possible for us to meet our quota?" It would be necessary for institutions to stand up and be counted, to announce their intentions so far as preparation of teachers for the common schools is concerned. If institutional academic standards make it impossible for a college to meet its contract with the state, it may either adjust its academic standards—letting down the bars to fill its quota—or it may move the other way, announcing its intention to modify its contract in the name of academic respectability or financial solvency. Such publicity and a clearer focusing of alternatives are much needed. One possibility, usually of interest to the administrative staffs of independent colleges, looms as a calm threat. If the existing colleges in a given area fail to fulfill contracts to man the classrooms of the region's common schools, state or municipal authorities may set up teacher-training centers to do the job.

A first step, then, in adjusting academic standards to professional demands in the preparation of teachers would be to see to it that approved teacher-training colleges sign firm contracts with the state, stipulating the number of certified teachers to be produced annually. The state should move to set up its own training centers wherever existing institutions fail in their quotas. This device would insure that rising academic standards and rising college costs do not jeopardize an adequate supply of teachers for the common schools.

Under such an arrangement, individual colleges would, of course, set their own standards for admission and graduation. Moreover, they would decide whether they wish to prepare teachers at the state minimum (*e.g.*, the bachelor's degree) or at a higher academic level (*e.g.*, the master's degree). Moreover, whether courses taken by non-degree professional enrollees are to count toward degrees, in what order, and under what circumstances, is entirely up to the college. To the extent that the state stipulates degree requirements for certification, the state must honor the autonomy of the institutions granting the degrees. Serious questions may be raised, of course, whether there is sufficient common ground between the drive for excellence, which characterizes good college and university education, and the professional demands of the common schools to make it wise for the state to stipulate degree requirements for advanced certificates.

However that may be, public opinion now apparently supports the notion that every teacher should hold the baccalaureate or first degree. Whether this reflects the deep conviction of the public that college graduates are in possession of a substantial intellectual and social equipment which makes them better teachers is questionable. It may be little more than a convention. As such, however, it has strength. Probably there is no point at this late date in posing the issue of whether the college graduates now teaching are actually doing a better job than the old normal school graduates. In any case, there is very strong professional support for the notion that a career teacher should earn the master's degree sometime within the first decade of his professional service, although there is little evidence that the public is concerned about this attainment.

What Price MA?

If teachers in the common schools are to pursue advanced study, what policy should good colleges and universities follow in formulating standards for the master's degree for teachers? There is some evidence that excellent colleges and universities have allowed the master's degree in the humanities and social sciences to become a relatively easy degree. Theses are frequently not required. Comprehensive examinations are not always a condition of the granting of the degree. Should these policies be adopted in education? If a teacher has earned a bachelor's degree, has been licensed by the state, and has satisfied a local board of education to the extent that he has held a job for a period of years, should he be looked upon favorably as a candidate for a master's degree in a good university?

Education faculties must, of course, observe general institutional policy affecting master's degree programs in their respective universities. But it may be seriously questioned whether it should be more difficult to secure a master's degree in education than in economics, or whether such onerous tasks as writing a thesis or taking a comprehensive examination should be required in education if sociology and English are not also making such requirements. In sum, standards for the master's degree for teachers should parallel those in related academic departments, but this first degree beyond the baccalaureate need not be highly selective.

As for graduate work in education not applied toward a master's degree, or engaged in by teachers subsequent to the master's degree, admissions standards and quality standards in course should be the same as those applying to master's degree candidates. If the distinction between academic standards as prerogatives of colleges and universities, and certification standards as involving the interests of the state is to be preserved, however, there is serious question whether college and university officials should become involved in the certification of individuals for the wide range of professional specialties (*e.g.*, guidance director, supervisor, principal, superintendent). A college or university training center can offer stipulated course work relevant to such specialties to people maintaining good standing at the first graduate level. But certainly completion of course work is only a minor element in producing the competencies necessary for the educational specialist. An educational specialist should be a licensed teacher, and the state may stipulate course work as a necessary condition for appointment to a specialist position. But beyond this, it may well be that the licensing of specialists as such should either be done away with entirely or left in the hands of practitioners. The quota system will guarantee a supply of live bodies, bearing licenses, to man the teaching posts. The specialists can be drawn from this corps of persons and evaluated on the job by those most familiar with their functions.

Elite Doctorates

The doctorate should remain for the truly learned. There ought to be scholarship of the old-fashioned élite sort somewhere in every profession. Let us find our very best scholars, do our level best to discipline them, and upon these and only these confer the doctorate. This way, obviously, doctoral programs must remain completely separated from certification by the state and professional demands stemming from boards of education. Professors of education need ask of their professional confreres only that the subject matter of education be accepted as worthy of doctoral study. This much granted, academic colleagues will be invited to apply to candidates for the doctorate in education standards that are fully as rigorous as those current in any other field. Moreover, members of graduate faculties in education should participate wholeheartedly in the development and application of highly selective standards for the doctorate in education.

The content of doctoral programs in education is for graduate faculties at the universities to work out. If doctoral products of different universities are possessed of markedly different qualities of intellectual discipline, that is all to the good. Earning the doctorate, however, may well be an exercise of great cost in time, money, and spirit. The primary focus should, of course, be upon scholarship. The doctor in education should be a truly learned student of education. Whether this sort of traditional scholarship is directly relevant to professional performance—as a school superintendent, principal, guidance director, or master teacher—is beside the point. If it is not, then the profession should not allow a premium to be placed upon the doctorate in determining appointment to such positions.

In summary, policies have been proposed here for adjusting academic standards to professional demands on the basis of an analysis of institutionalized schooling as it is established in the United States. It has been maintained that a primary obligation of institutions for the preparation of teachers in the United States is to produce personnel to man the teaching posts in the common schools. No selection is possible or appropriate in the 12-year program of the lower schools;

standards must be adjusted to the universal clientele.

To insure a constant supply of teachers of the highest possible calibre, institutions preparing teachers should operate on a quota system, and meeting the prescribed quota should be a condition for continued approval as a teacher-training center. It has been proposed, similarly, that certification or licensing should be separated from candidacy for or possession of academic degrees, with the exception of the initial certification, where the quota system will guarantee a supply of teachers while allowing individual teacher-training colleges to set their own standards of quality.

Academic standards for the doctorate, on the other hand, should be very high and should be completely separated from professional demands. The academic profession should exert its influence to discourage any tendency to make the doctorate a stated condition of employment for any position in the common schools.

These proposals have been advanced in the perspective of the conflicting traditions and currently competing values of collegiate and higher education and of primary education. It seems inevitable that academic standards in the preparation of teachers must be constantly subject to adjustment in the recognition (1) that meeting the demand for teachers in the common schools is an absolute, unqualified, and immediate obligation, (2) that respect for academic freedom entails institutional autonomy in setting standards of scholarship, and (3) that demands for specialized personnel should not be allowed to modify scholarly standards held for the doctorate.

Contributors

The question of how teachers may most profitably be educated is stubbornly recurrent. Perhaps it is one of those issues which, although we cannot finally resolve them, we must continue to think about seriously in order to preserve our civilization. For **Mortimer Smith**, the executive officer of the Council for Basic Education, the matter is straightforward: Like all other educated men, teachers should be trained in the liberal arts and then apprenticed in their pedagogical craft. On the other hand, **William Wattenberg**, a well-known psychologist at Wayne State University, reminds us that we know very little about the characteristics of teachers that facilitate learning in children. On what basis, then, can we make pronouncements about teacher education until we have at least begun the research, too long neglected, on which wise suggestions could be soundly based? And **Robert E. Mason**, once a college registrar and now a philosopher of education at the University of Pittsburgh, calls attention to the hard fact that teacher-educating institutions have a kind of social contract to keep the schools open by supplying men and women to run the nation's classrooms. This obligation, an integral part of the American faith in education, has implications of a subtle but profound sort for policy, and Dr. Mason demands that we give them due attention.

If teacher education is a recurrent problem, an issue of fervid immediacy is that of religion in the schools. To gain some perspective on it, we present this month two constitutional readings by two eminent attorneys, **Bernard Schwartz**, a member of the Faculty of Law at New York University, and **William B. Ball** of Harrisburg, Pennsylvania, who practices in both Pennsylvania and New York and serves as legal counsel to the National Catholic Educational Association. Between them, they challenge most of our easy stereotypes, a process which defines a significant part of education itself.

Whether we deal with teacher education or religion in the schools, our ultimate focus is on students. **Lionel Trilling**, the distinguished Columbia University critic of modern culture and its literature, offers some reflections this month on the cult of modernity among contemporary college students. In bringing his ideas to you, we warmly acknowledge a debt to Professor Trilling and to the Harvard Alumni *Bulletin* (7 July, 1962. Copyright 1962 by the *Bulletin*) from which his piece is reprinted.

Both in its direct bearing on students and in its illustration of a kind of "cult of modernity," the matter of "creativity" is of considerable importance to us. **Robert L. Thorndike**, the prominent specialist in educational measurement from Teachers College, Columbia University, finds much of promise in our new concern. But he also bids us with quiet wisdom to gear our enthusiasm to the limitations of our accomplishments. Careful thought remains the best protective against educational faddism.

Careful thought is often dependent on an appreciation of history, and **Robert Grinder** and **Charles E. Strickland**, the first a psychologist and the second an historian at the University of Wisconsin, fruitfully collaborate for our benefit on a study of G. Stanley Hall's conceptions of adolescence. Having inherited many of our notions of adolescent *Sturm und Drang* from Hall, it is high time that we knew more of their context in his total thinking. The article will appear this spring in Dr. Grinder's *Studies in Adolescence,* published by Macmillan.

Finally, **T. R. Repplier**, president of the Advertising Council and one of America's leading advertisers, uses the *Record* to beard the educational lion in its den. Gently but firmly, he raises the possibility that, in making advertising a favorite whipping boy, intellectuals and educationists may know less than is becoming about the topic, especially in its international relevance. As usual, important issues defy simple resolutions!

We hope this number of the *Record* will jar domestic convictions and stimulate some reconsiderations of basic problems. For our friends abroad, we offer it proudly as both an evidence of American pluralism and a source of provocative and, hopefully, helpful educational ideas.

ROBERT E. GRINDER
AND
CHARLES E. STRICKLAND
University of Wisconsin

G. Stanley Hall and the social significance of adolescence

If the influence of historical personages in psychology were to be appraised by contemporary status, the names of Sigmund Freud, William James, Ivan Pavlov, and Edward L. Thorndike would surely be included in any serious listing. The theoretical formulations of these pioneers have survived rigorous investigations; today they underpin conceptual scaffolds for innumerable systems of learning and personality. But absent from the list would be the name of G. Stanley Hall (1844-1924), the man who earned America's first PhD in psychology, the father of the child study movement in the United States, the founder of the American Psychological Association, and the author of some 350 papers, articles, and books, including an enormously comprehensive two-volume treatise on the psychology of adolescence (*11*). Lecturer at Harvard, Professor at Johns Hopkins, and President of Clark University from its inception until his retirement, Hall enjoyed a thoroughly productive professional career. Most of the institutions fathered by him are now nationally prominent, but from its peak at the turn of the century, the influence of his theory and research has ebbed continuously. Even as early as 1928, it was declared in the preface of a highly regarded text on adolescence that "students of Dr. G. Stanley Hall will miss extensive reference to his voluminous pioneer works on adolescence . . . such reference would seem of historic value primarily, rather than of scientific or practical value today (*21*, p. ix).

Twin Ambitions

Although Hall's *magnum opus* on adolescence has been taken as the starting point for discussions of adolescent phenomena for decades, the majority of psychologists who have worked in this area, except for a small clique of first-generation devotees, have renounced his theoretical formulations unequivocally. Specifically, Hall has been impugned for (a) ignoring the influences of culture and overly emphasizing the importance of physiological functions in the adolescent's development, (b) conceptualizing adolescence as a period of intense storm and stress arising from instinctual upheavals, and (c) regarding the physical growth of adolescents as saltatory rather than as continuous and gradual. These interpretations of Hall's views have had a telling effect upon contemporary thinking in adolescent psychology, and they have caused him to appear, in his historical role, somewhat like an antichrist.

G. Stanley Hall differs from most psychologists, past or present, in the degree to which he attempted to apply Charles Darwin's evolutionary view of man to both psychology and social philosophy. His most important adaptation of Darwinism or evolutionary biology was the theory of recapitulation. He argued that every phase of a person's growth represents one of the different levels at which the human race was once mature; hence, every person recapitulates or repeats the history of the race in his development. Whereas the human fetus reveals a very remote stage of evolution, some adult behaviors are the actual cutting edges of a new stage. Hall reasoned that the phylogeny of the human race could be reconstructed by research not only in human psychology, but also in biology, anthropology, sociology, history, and comparative psychology. On the one hand, Hall literally envisaged himself to be the prophet of a new social order. In his opinion, evolution pointed to the development of a super-race, and to this end a collective society should be organized under the control of an elite who could direct mankind toward its goal of evolutionary perfection. On the other hand, Hall enjoyed being honored as a "Darwin of the mind" (*17*, p. 360). His ambition was to construct the history of the psyche, from the lowly amoeba to man himself (*14*, p. 252). He believed that possession of this knowledge would reveal the complexities of human development, accelerate evolutionary processes, and unlock even the purpose and destiny of life itself. Primarily, these twin ambitions turned Hall toward the adolescent years.

Social Reform

Accustomed as we are to Darwin's evolutionary view of life, it is difficult to imagine the intellectual upheaval occasioned by the theory during Hall's formative years. Within three decades after *The Origin of Species* appeared in 1859, the influence of Darwinism had reached every branch of the social sciences. Although Hall began his career as a divinity student, his interests were rapidly drawn to Darwinian theory. Toying with this dangerous but fascinating new idea while attending Union Theological Seminary in the 1860s, he became disillusioned with theological orthodoxy. The fate of his keen young intellect balanced precariously for a time until Henry Ward Beecher, the famed clergyman, convinced that philosophical studies abroad would do no harm to a young man's piety, secured the funds necessary for Hall's journey to Berlin University (*17*, pp. 171-181). German society fascinated Hall to such an extent that he returned to America only with reluctance, and he later confessed to planning several "unpractical ways" of spending the rest of his life abroad (*17*, p. 222). Events during the Gilded Age convinced Hall that *laissez-faire* individualism would no longer answer the needs of a complex, civilized society, and in his judgment, Germany was leading the civilized world in social reform legislation.[1] As Hall saw it, Germany took seriously the admonitions of her philosopher, Johann Fichte, who early in the century had called for an educational state, governed by an elite and dedicated to the cultural perfection of mankind. The German social order had "actualized the Platonic Republic" (7, p. 27).

When he condemned *laissez-faire* individualism and materialism, Hall marched in step with a hardy band of nineteenth-century American intellectuals and reformers. But when he began to formulate his own brand of utopia he broke the cadence. To the ideas of Plato and Fichte, he added elements drawn from the thought of Darwin and the German philosopher, Friedrich Nietzsche. The result was a collectivistic utopia based on a profound distrust of reason, individualism, and democratic egalitarianism.

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[1] The authors are greatly indebted to Charles O. Burgess for insight into Hall's social philosophy.

Intellect and Pessimism

Darwinism provided scientifically respectable support for Hall's pessimism about the intellectual qualities of the average man. Surveying the course of evolutionary development, Hall belittled the rational powers as determinants of behavior. They were a relatively late development in evolution. "Instincts, feelings, emotions, and sentiments are vastly older and more all-determining than the intellect," Hall asserted; moreover, they are basically right (*17*, pp. 361-362). Awed by what he perceived to be the perfect social organization of the insect, Hall believed that the "superiority of instinct over reason is that it regulates conduct in the interest of the species at every point" (*13*, p. 211). While science in general was affirming that nature could be controlled for service to man's purposes, Hall was contending that man should be controlled in deference to the expressions of nature (*3*).

Hall distrusted not only reason but also individualism and democratic forms of government. Here the influence of Nietzsche—as Hall understood him—is apparent. The mediocrity of most men, in Hall's view, testified to the fact that they lacked the "push" necessary to move them upward on the evolutionary scale (*9*, p. 484), and that democracy "everywhere... tends to the dead level of the average man and to the dominance of... incompetence and mediocrity" (*17*, p. 440). In a paper written for an audience of German educators in 1915, he declared that America was the home of men suffering from "over-stimulation." "Our very schoolboys are told that they may possibly become presidents or millionaires, that theirs is a land of boundless opportunity" (*16*, p. 510). "The peril of democracy is that it has aroused so large a body of hopes that are utterly unrealizable"; inevitably democracy would experience a "gospel of renunciation" (*18*, p. 466). Perhaps the most serious evil of democracy, as he saw it, was its encouragement of concern for individuals, and on one occasion he turned the generally accepted definition of *pity* on its head. Hall argued that pity must not be extended to the downtrodden,

> because by aiding them to survive it interferes with the process of wholesome natural selection by which all that is best has hitherto been developed.... Its work is no longer the salvage of the wreckage of humanity.... Pity has its highest office then in removing the handicaps from those most able to help man to higher levels—the leaders on more exalted plains who can be of most aid in ushering in the kingdom of superman (*19*, pp. 590-591).

Hope in Youth

G. Stanley Hall's longing for a superanthropoid utopia bore a significant relation to his view of the adolescent because Hall believed that youth would play an important role in bringing about the new society. Needed were persons who would realize that the destiny of human beings collectively was more important than the welfare of an individual. Needed were persons who would subordinate themselves to the nurture of that "elite youth" who are harbingers of the future (*19*, p. 591). Hall felt that adolescents were well equipped with the collectivistic sentiments necessary to bring about the super-race, and to nourish these sentiments, he called for an educational program that would stress the development of a sound body and sound emotions rather than the cultivation of intellectual abilities. He scorned teachers who would "allow or even encourage callow classes to debate, discuss, and weigh evidence or regurgitate the matter of the textbook" (*12*, p. 459). Early in adolescence, he would have the sexes separated—girls to be prepared for marriage and motherhood, boys to be trained for service and citizenship (*11*, II, ch. 17). For boys, Hall placed particular emphasis on instruction in body culture, patriotism, military discipline, and industrial education (*11*, I, ch. 3). Perhaps the most striking characteristic of his educational plan for adolescents was his belief that intellectual training should be reserved for comparatively few:

> Many gather at the foot of the mount, some ascend a little way, but only a chosen few can scale the summit above the clouds and bring down the tables of the law for those who wait below.... The few hundred picked and ripened adolescents who could and would live solely for research and the advancement of the kingdom of man and of truth in the world are too often lost in the growing academic crowds (*11*, II, p. 559).

Recapitulation Theory

To a democratic nation that was realizing equality in public schooling for all children, the social significance of G. Stanley Hall's concept of adolescent education probably seemed offensive. But Hall believed that his views rested on scientifically respectable grounds and that the theory of recapitulation provided the psychological justification he needed. Before fully endorsing this new biological interpretation of psychological data, however, he passed through an interlude of enthusiasm for the experimental psychology of Wilhelm Wundt. After completing his doctorate at Harvard in 1878, Hall journeyed to Germany to study at Wundt's newly established laboratory in Leipzig. Convinced that sensation and muscle reaction were the bedrock of the psyche, Hall hailed Wundt as the "coming philosopher in Germany" (*6*, p. 283), whose experiments would settle major epistemological controversies. To Hall, the laboratory technique represented an "independent look at nature" that "has opened new impulses and enthusiasm for me such as nothing else has" (*27*, pp. 20-21). During the 1880s, however, Hall slowly turned his back on the psychological laboratory. He found it too confining for his ambitions, which were nothing less than to "unlock the past history of the race" (*14*, p. 263)—to construct the origin and development of the psyche; not merely the conscious intellect, but the unconscious emotions and instincts as well. Wundt had erred in ignoring Darwin, and Hall resolved not to make the same mistake (*14*, p. 254).

The heart of Hall's grand design was the theory of recapitulation, an imaginative corollary of Darwin's evolutionary theory. By observing species in their natural habitats, Darwin had ordered his data on a scale from lower to higher complexity. But his effort was more than mere description and classification, for in denoting the lower forms as "earlier" and the higher forms as "later," he told a story of the origin and development of life. Nonetheless, how on the basis of observation and hypothesis could Darwin know that simpler forms of life were also earlier? Paleontological evidence was as yet scanty, and archeology and anthropology were still highly speculative; so Darwin and others interested in the validity of his argument turned to the relatively advanced science of embryology. In 1864, a German biologist, Fritz Mueller, published a study showing that, in its development, the embryo of higher animals recapitulates the forms through which its species had evolved. In 1868, the idea achieved prominence in the popular lectures of Ernst Haeckel, who extended the notion to include post-natal psychic development, and who coined the phrase by which the theory became widely known: "ontogeny is a brief and rapid recapitulation of phylogeny" (*5*, ch. 26). Haeckel's "bio-genetic law" gave impressive support to Darwin's hypothesis that complex living forms had descended from more simple beginnings. In embryonic development lay the record of evolution for all to see (*4*, p. 5; 26, pp. 516-517).

Primitive Emotion

Bolstered by Haeckel's biogenetic law, Darwin's view of natural history swept through the field of biology and on into psychology. The great pioneer, Darwin himself, led the way. In the *Expression of the Emotions in Man and Animals*, Darwin described such phenomena as fear, anger, and joy as inherited remnants of similar expressions in "earlier" forms; *e.g.*, the sneer invoked in human social situations was reminiscent of the canines who bared their teeth in rage. Inspired by Darwin's analyses, Hall praised him as "standing almost alone" in the investigation of emotional expressions (*20*, p. 315). Darwin's bold manner of applying to the psyche the methods which he had applied so successfully to physical form and function completely won Hall's admiration. Speaking in 1909 before an assemblage honoring the contributions of Darwin, he demonstrated his indebtedness. He assured the group that "psychic rudiments and recapitulatory traces" are "as recognizable as the rudimentary gill-slits in the embryo," for "the child is vastly more ancient than the man." The child is, in fact, "his very venerable and, in his early stages, half-anthropoid ancestor" (*14*, pp. 260-262). Impending was a "well-established embryology of the soul," which would provide the necessary basis for a "true mentally, esthetically, and morally orthopedic education" (*14*, p. 263).

Hall's enthusiasm for the theory of recapitulation propelled him from the laboratory into the leadership of the child study movement in America. After he became president of Clark University, men and women flocked there to work under his direction, and the literature about children increased rapidly. From the beginning, Hall's interests were less in the development of the child and adolescent *per se* than in "coordinating childhood and youth with the development of the race . . . and also to establish criteria by which to both diagnose and measure arrest and retardation in the individual and the race" (*11*, II, p. viii). Because the study of the history of the race would provide the "true norms" for human development, he held that the psychologist must study the past—not merely traditional history with its concern for war and politics, but also cultural, social, and economic history. Above all, Hall proclaimed the relevance of anthropology, for he believed that some of the more psychologically significant aspects of human nature emerged before the rise of civilization and the advent of written records (*15*, pp. 292, 306-310).

Primacy of the Past

Hall's belief that the psychologist must look to the past for norms of psychological development may appear unorthodox to modern investigators, but it offers an essential key to understanding his view of the adolescent years. The theory of recapitulation gave him confidence that anthropological and other historical data were crucial, and his interpretations of these data provide the broad framework for his evaluations. In anthropology, the idea that human culture, like the animal world itself, evolved from simple beginnings had developed even before Darwin won acceptance for his theory of biological evolution. In America, the most influential representative of the "evolutionary" school of anthropology was Lewis Henry Morgan, whom Hall cited on several occasions. Morgan, in his epoch-making *Ancient Society* (1877), sketched the development of mankind in three broad stages—savagery, barbarism, and civilization. Particularly noteworthy is the fact that Morgan contended these stages respectively exhibited recurrent patterns of social organization: collectivism, individualism, and collectivism again. On the basis of his findings, Morgan predicted that the individualism characteristic of the nineteenth century would prove only a transient stage peculiar to barbarism, and that eventually it would give way to a civilized collectivism (*28*, pp. 139-143). Although Morgan's idea of a collective civilization bore little resemblance to Hall's notion of a totalitarian utopia governed by an elite, nevertheless, the essential pattern—individualism giving way to collectivism—matched Hall's social philosophy. Since Hall believed that every individual retraced the history of the race in his development, he fully expected everyone to exhibit stages resembling the three that Morgan had outlined.

The parallel between Morgan's evolutionary scheme and Hall's description of the course of human development is striking. Although Hall remained extremely vague about the relation of evolution to early childhood, ignoring infancy and dismissing summarily the "kindergarten" stage as a "sentimental" period, he showed considerable concern for the "juvenile" or "prepubescent" stage, which ranged from 8 or 9 to 12 or 13 years of age. The child's entry into this second stage is marked by "a decreased rate of growth, so that the body relatively rests," and the next four years represent "on the recapitulation theory, a long period in some remote age, well above the simian, but mainly before the historic period" (*9*, p. 477). The child's eagerness to throw, run, dodge, hit, chase, wrestle, box, fish, and hunt are all lingering vestiges of ancient times when these activities were necessary to survival.

Juvenile Barbarism

More significant for Hall's total scheme, however, were the social attitudes expressed by the juvenile. The child at this age represents a mature barbarian who is healthy, vigorous, selfish, and totally unsentimental. While he is responsive to his peers, tending to form "barbaric associations . . . pirates, robbers, soldiers . . . and other savage reversionary combinations" (*10*, pp. 226-227), he is indifferent to the adult, civilized world. "The wisest requirements seem to the child more or less alien, arbitrary, heteronomous, artificial, falsetto" (*10*, p. 4). "Reason, true morality, religion, sympathy, love, and esthetic enjoyment are but very slightly developed. Everything, in short, suggests the culmination of one stage of life as if it thus represented what was once, and for a very protracted and relatively stationary period, the age of maturity in some remote, perhaps pigmoid, stage of human evolution" (*11*, I, pp. ix-x). According to Hall, the school should introduce these children into the necessities of learning "as intensively and quickly as possible with a minimal strain and with the least amount of explanation or coquetting for natural interest" (*10*, p. 5).

Pessimism about human development gave way to an exhilarating optimism when Hall saw the individual reach the adolescent years, from fourteen to twenty-four. As early as 1896 he observed that although "the child has been selfish" during a long period of "complete individual development," the adolescent years signal "a second birth."[2] Now one witnesses the "birth of love in the largest Christian sense, psychologically free from all selfish motives" (*8*, pp. 193-195). In *Adolescence*, Hall elaborated this point of view. The adolescent "must conquer a higher kingdom of man for himself, break out a new sphere, and evolve a more modern story to his psychophysical nature" (*11*, II, p. 71). "Adolescence is a new birth, for the higher and more completely human traits are now born" (*11*, I, p. xiii). "Individuation is suddenly augmented and begins to sense its limits and its gradual subordination to the race which the Fates prescribe" (*11*, II, p. 58). "In some respects, early adolescence is thus the infancy of man's higher nature, when he receives from the great all-mother his last capital of energy and evolutionary momentum" (*11*, II, p. 71). And in a most significant passage, Hall remarked,

> at any rate, for those prophetic souls interested in the future of our race and desirous of advancing it, the field of adolescence is the quarry in which they must seek to find both goals and means. If such a higher stage is ever added to our race, it will not be by increments at any later plateau of adult life, but it will come by increased development of the adolescent stage, which is the bud of promise for the race (*11*, I, p. 50).

The Great Misunderstanding

Hall's distrust of democracy and individualism and his aspirations for a utopian super-race merged in a concept of adolescence that other psychologists, from his time onward, have found generally unpalatable. Recapitulation theory persuaded Hall that the outgrowth of plasticity at adolescence was the best hope for mankind's evolutionary progress, and he and his students recognized this period as "the focal point of all psychology" (*24*, p. 119). As a result of the controversial nature of his views, and as a consequence of the ensuing confusion, Hall has been misunderstood in this major respect: It has been said that "the work of G. Stanley Hall set the theme for emphasis upon the physiology of adolescence.... Hall, and the writers who studied his works, attributed many of the peculiarities of adolescence to the facts of puberty" (*1*, p. 8), and "he ignored the effects of cultural setting" (*29*, p. 26). Actually Hall's views were unequivocally and diametrically opposite to these contentions.

Although Darwinism committed Hall to an emphasis on the genetic determinants of behavior, he believed firmly that at adolescence the process of recapitulating instincts gave way to the primacy of cultural influences. "No age is so responsive to all the best and wisest adult endeavor. In no psychic soil, too, does seed, bad as well as good, strike such deep root, grow so rankly, or bear fruit so quickly or so surely" (*11*, I, p. xviii-xix). To show that phylogenetic recapitulation abated in adolescence, he said, "Young children grow despite great hardships, but later adolescence is more dependent upon favoring conditions in the environment, disturbances of which more readily cause arrest and prevent maturity" (*11*, I, p. 47). "The whole future of life depends on how well the new powers now given suddenly and in profusion are husbanded and directed" (*11*, I, p. xv). "There is nothing in the environment to which the adolescent nature does not keenly respond" (*11*, II, p. 453). "The processes last to be attained are least assured by heredity and most dependent upon individual effort, in aid of which nature gives only propulsion, often less defined the later it can be acquired" (*11*, II, p. 94).

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[2] The concept of adolescence as a second birth was first given prominence in modern thought by Rousseau, whose *Emile* was originally published in 1762.

Child vs. Adolescent

To show that *Adolescence* was a product of his concern for cultural influences, one need only note Hall's major theme: "Hence there is need of the most careful study of consummate practical wisdom, in providing the most favorable environment and eliminating every possible cause of arrest or reversion. This is indeed the practical problem of this book" (*11*, I, p. 49). Part of the confusion regarding Hall's views may stem from his attitudes toward the child as opposed to his attitudes toward the adolescent. Hall did disregard the effects of cultural factors upon the former, but he certainly did not do so with respect to the latter. It was, in fact, the very plasticity of adolescence that bolstered Hall's hopes for creating an improved society based on continued evolutionary progress.

Perhaps the most controversial of Hall's views of the adolescent years has been his statement that the period was "suggestive of some ancient period of storm and stress when old moorings were broken and a higher level attained" (*11*, I, p. xiii). In physical growth, therefore, Hall observed the presence of instinctual remnants. "Early adolescence brings sudden spring freshets of growth impulse in all directions, and these initial momenta . . . are at first more or less uncoordinated . . ." (*11*, I, p. 309). "Different organs and tissues or determinants compete for the available nutritive material in the blood, and some for a time get ahead of others in this internal struggle for survival" (*11*, I, p. 241).

In the ensuing decades, several psychologists and anthropologists, notably Margaret Mead (*25*, p. *11*), have attempted to show that adolescent stresses are largely a product of cultural pressures. These investigators have judged Hall correctly in assuming that he conceptualized adolescence as a period of great storm and stress, but in anticipation of contemporary thinking, Hall attributed considerably more influence to cultural factors than he did to instinctual processes. Even in the biological aspects of behavior, Hall noted the permeability of adolescence to the influences of environmental pressures, and he saw that "the great influx of muscular vigor that unfolds during adolescent years . . . seems to be a very plastic quantity" (*11*, I, p. 157). Speaking of the evils of "city life, modern industrialism, and mixture of distinct ethnic stocks," he said, "under these provocations, some instincts spring into activity with a suddenness that is almost explosive" (*11*, I, p. 322). "Our vast and complex business organization that has long since outgrown the comprehension of professional economists, absorbs ever more and earlier the best talent and muscle of youth . . . but we are progressively forgetting that . . . youth needs repose" (*11*, I, pp. xvi-xvii).

The Adolescent Transition

Within the framework of the social reforms that Hall was seeking, however, storm and stress approached gigantic proportions. The adolescent was free of the past and responsive to the present, but above all, he felt the pull of the future. The contemporary student of psychology generally regards adolescence as a period of transition from childhood to adulthood (*22*, p. 4; *23*, p. 4), and the usual criterion marking an individual's successful passage is his achievement of satisfactory physiological and social adjustment in his here-and-now society, but Hall was much less parochial. Adolescence was a time when "henceforth the race, not the self, must become supreme" (*11*, II, p. 303). Doggedly pursuing a super-race, he conceived the adolescent transition as extending far beyond the best that he saw in present civilization, and he believed that adolescence, "and not maturity as now defined, is the only point of departure for the superanthropoid that man is to become" (*11*, II, p. 94). To his way of thinking, it was "a colossal assumption that what we call civilization is the end of man, or the best thing in the world" (*11*, II, p. 717). Therefore, Hall not only anticipated recent investigators in attributing primary stress during adolescence to the interaction of environmental and genetic factors, but in his zeal to rearrange things and produce a superanthropoid, he surpassed them.

Prophet's Eye on Growth

Similarly, impregnated with the theory that every man recapitulates history until, at his adolescence, the racial instincts exhaust themselves in a new birth of human malleability, Hall perceived adolescent growth to be saltatory (*11*, I, p. xiii) rather than gradual. As with most of Hall's views, opinions became differentiated sharply. By the sheer magnitude of their output and prestige, Hall and his students were able to polarize the early balance of scientific opinion in their "cataclysmic" camp (*2*, pp. 76-79). But there were others, like Edward L. Thorndike and Leta Hollingworth, who disagreed radically. "It is a favorite dictum of superficial psychology and pedagogy that instincts lie entirely dormant and then spring into full strength within a few weeks. At a certain stage, we are told, such and such a tendency has its 'nascent period' or ripening time.... These statements are almost certainly misleading... what data we have show nothing to justify the doctrine of sudden ripening" (*31*, pp. 260-261). Today the preponderance of scientific evidence continues to increase the substance of Thorndike's position. Doubtless Hall's inadequate statistical techniques contributed partly to his analyses; if his studies and those of his students had been more analytical and precise, the saltatory growth phenomena probably would have seemed less self-evident. Even so, Hall's saltatory theory retains some of its descriptive merit. For, as was recently observed, "physical growth... does *not* occur in a series of jumps, but continuously... except in so far as one might consider the rapid change at adolescence as the achievement of a new, and mature, stage" (*30*, p. 63).

Stormy in his role as a social prophet and zealous in his exposition of Darwinism, G. Stanley Hall created an image of the adolescent years that always aroused controversy. Convinced by his interpretation of recapitulation theory that the democratic system was little more than barbaric, he sought to achieve social and educational reforms in the face of democratic individualism. On the adolescent he focused his aspirations for a super-race, and by the force of his ambitions, he neglected the educability of the child, overestimated the potential of the adolescent as an agent of social reform, and, consequently, exaggerated the magnitude of storm and stress. Had he studied adolescence to test recapitulation theory rather than to justify it, Hall might never have lost stature in the field he did so much to establish.

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Issues & Items

People, Money, and College. School people, like thoughtful persons everywhere, will undoubtedly find a grim fascination in the interim population projections for the US recently released by the Census Bureau. Remembering that increases in the sheer number of human beings are virtually everywhere the basic social fact that must be accommodated in our dreams of both the immediate and long-range future, these data have a significance in highly personal terms that must not be obscured by their coldly numerical garb.

As we think about American schools, for example, keeping in mind our commitments and obligations overseas as well, we will find it hard to identify a more relevant set of facts than these estimates of population growth for our younger age groups and our human totality. Figures are in *millions* of people:

Age Group	*1960*	*1970*	*1980*
5 to 9	18.8	20.3	24.7
10 to 14	17.0	20.4	21.7
15 to 19	13.4	18.9	20.6
20 to 24	11.1	17.0	20.5
All ages	180.7	214.2	259.6

In 1961, there were 4.3 million births in the United States as against 1.7 million deaths; the respective rates were 23.6 per 1,000 of population and 9.3, yielding a rate of natural increase of 14.3 per 1,000. The birth rate compares with a postwar peak of 26.5 in 1947 and an average of 24.7 for the roughly 15 years since the war's end. Immigration has con- population growth since 1945, averaging 301,000 yearly for the period.

As one would expect, our population is not only growing; it is in the process of redistributing itself in important ways. For instance, during the decade of the 1950s, there was a net in-migration of nonwhite persons to California of 354,000, to New York of 282,000, to Illinois of 189,000, and to Ohio of 133,000. Similarly, there were nonwhite out-migrations of 323,000 from Mississippi, 224,000 from Alabama, 218,000 from South Carolina, 207,000 from North Carolina, and 204,000 from Georgia. Interestingly, Florida *received* a net of 101,000 nonwhites during the 10-year span.

If we examine rural-urban demographic trends, we find that the number of persons living on farms in rural regions declined in the single year from 1960 to 1961 by 830,000 and that only 8.1 per tributed 10.8 per cent of our over-all cent of the American population currently reside on farms. There are about 109 farm males per 100 females, although the sex ratio in general shows only 97 males per 100 females; and the farm population tends to be young—43 per cent are under 20 years of age. On the other hand, young adults and persons of middle age are rather scarce; only a quarter of the farm total is accounted for by the age span from 21 to 44. For two decades, young people have been leaving rural areas to seek the stimulation or perceived advantages of city life, and this shift toward the city in our attitudes as well as in our economics is reflected in these anything-but-cold statistics.

Turning to family earnings, we discover an increase of 85 per cent—from $3,000 to $5,600—in median income from 1947 to 1960, but the inflationary trend in prices offsets about half of that increment. If the worth of the dollar in 1960 is taken as the unit, then real purchasing power has risen from a value of $4,000 to $5,600 or by 40 per cent. Although some economists would judge this estimate of growth in economic well-being as a bit liberal on the ground that costs have increased rather more than these figures reflect, it seems reasonably clear that family incomes have been rising at a rate of about 2.5 per cent each year since 1947. The distribution of income is approximately symmetrical with some six million families receiving incomes in 1960 of less than $2,000 in cash, defining a large and serious problem for our nation, and about the same number receiving $10,000 and over, representing our comfortably advantaged 13 per cent. Of our 45.5 million families, only 1.7 million had 1960 incomes in excess of $15,000.

One immediate educational application of these figures has been recently called to our attention by George H. Hanford, the vice president and treasurer of the College Entrance Examination Board. There is every indication that college-going in the US will double by 1970 and that nearly half of that increase will be concentrated in the academic years of 1963-1964 and 1964-1965. Analyses of census data and studies by the College Board and the Association of College Admissions Counselors contribute to these expectancies. In 1959-1960, the number of college entrants approximated 999,116. Against this base, the College Board anticipates increments as follows (absolute numbers in *millions*):

Academic Year	*High School Seniors*	*Entrants College*	*% Entrants*	*% Annual Change*
1960-1961	3.104	1.026	33.05	+10.3
1961-1962	2.939	1.018	34.66	− .8
1962-1963	2.858	1.037	36.27	+ 1.9
1963-1964	3.411	1.292	37.88	+24.6
1964-1965	3.817	1.507	39.49	+16.6
1965-1966	3.637	1.495	41.10	− 1.3
1966-1967	3.649	1.558	42.70	+ 6.8
1967-1968	3.632	1.609	44.31	+ 5.5
1968-1969	3.823	1.756	45.92	+15.8
1969-1970	3.913	1.860	47.53	+11.2

That these projections are very close to accurate is borne out by data from the US Office of Education, indicating that the sophomores in public high schools currently outnumber juniors by some 27 per cent and that freshmen are more numerous than juniors by a thumping 54 per cent. Bulges in the birth rate plus the American faith in education and the ever increasing demands of technology for extended training forecast not only college problems in admissions, space, and personnel, but the necessity (and opportunity) for a thorough reassessment of what that omnibus term, "higher education," means in national and world culture.

One point underscored by Mr. Hanford deserves special mention. In the slightly more than one-third of youngsters in the appropriate age group who now enroll in college, virtually all of the top two per cent in academic ability are included. The number of these very able students is a function of the number in their age group. The size of the age group is expected to increase by something like one-third, whereas the total college enrollment is expected to double. In consequence, the pressure on the highly selective institutions of higher education, those that attract the very brightest high school graduates, should be rather less than the very heavy burden that will fall on virtually all other undergraduate colleges.

Again, the traditions of American pluralism are at stake: Can "higher education" responsibly and fruitfully absorb such numbers of very different people and provide them with the diversity of experiences that will be necessary to increase their various capacities to participate contributively in the complexities of contemporary life? By 1970, almost half our youth of suitable age will be in college. Whether college will be worth it for such a proportion of our population, and whether the integrity and distinctive values of a college education can weather such a storm of numbers are twinned questions. If they are to be answered with affirmations and culturally relevant foresight, we may have to rethink radically our conceptions of higher education in relation to the demographic facts of our time.

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Monthly Miscellany. A happy footnote on the Mississippi affair: For nine months in 1945-1946, Ole Miss was the host institution for a Navy V-12 student named Harry S. Murphy, Jr. Mr. Murphy is a light-complexioned Negro! . . . According to an NEA research monograph, the average public school teacher works 47.3 hours per week, devoting a little less than half his time (43 per cent) to required duties other than classroom instruction. Teachers in smaller school districts have larger classes and report somewhat greater feelings of strain in their work. . . . In the Rossmoor School District of California, William Blake, the English poet (Tiger! Tiger! Burning bright In the forests of the night) recently received more attention than his works have probably enjoyed in America since his death in 1827. Blake's poems, along with the books of Carl Sandburg, Dorothy Canfield Fisher, Christopher Morley, and Pearl Buck (Strange bedfellows in joy!) were the objects of attack by a group of parents who wanted them banned from the school library. A suitable rejoinder by Blake: Cruelty has a human heart, And jealousy a human face; Terror the human form divine, And secrecy the human dress. . . . Sears, Roebuck, *mirabile dictu*, has become a primary purveyor of art to the nation. The firm engaged Vincent Price, even better regarded as an art critic than as an actor, to put together collections of oils, water colors, etchings, and drawings which are now on sale at selected Sears stores across the country (although regrettably not through the mail-order process which made Sears's name an American byword). At prices ranging from $15.00 to $3,000.00, the collections are apparently outselling even the most sanguine expectations.... The credit of $5 million to Tunisia by the International Development Association, an affiliate of the World Bank, for the construction of secondary and technical schools is the first ever made by the IDA for education. Repayable over a 50-year period, the credit sets a precedent for educational assistance to other needful and ambitious countries. ... February thought on the human condition: Now is when we complain if the house isn't as warm as it was in the summer, when we complained about the heat....

LIONEL TRILLING
Columbia University

Commitment to the modern

THERE ONCE WAS a very distinguished and intelligent alumnus who found it possible to say that Harvard had done almost nothing for him intellectually. Inevitably he was Henry Adams.

Adams devotes the fourth chapter of his *Education* to his undergraduate days at Harvard College, and, although he speaks in affectionate gratitude of the personal good the College did him, he is very severe on the quality of the instruction he received. He tells us that in mathematics he learned nothing at all. The course in chemistry taught him a number of theories which, as he says, "befogged his mind for a lifetime." His work in the ancient languages gave him only an acquaintance with two or three Greek plays. Political economy consisted of some incoherent theories of free trade and protection, and he goes on to say that "he could not afterwards remember to have heard the name of Karl Marx mentioned, or the title of *Capital*." From the general condemnation he exempts only a single course—he did find some intellectual satisfaction in Louis Agassiz's lectures on the Glacial Period.

I should like to take special notice of Adams' remark that "he could not afterwards remember to have heard the name of Karl Marx mentioned, or the title of *Capital*." Adams' memory was not in the least at fault—we can be perfectly sure that he never did hear the title of *Capital* mentioned in his college. For Adams was graduated in 1858 and the first volume of *Capital* was not published until nine years later, in 1867. Nor is there any likelihood that Adams could have heard Marx's name mentioned by his professor of political economy, for even the *Critique of Political Economy* was not to appear until a year after Adams had left college. So no blame attaches to Harvard, for not even Harvard can fairly be expected to teach books that have not yet been written. The instance of Henry Adams clearly demonstrates that alumni who criticize their college educations are merely captious.

But that odd historical error of a great historian doesn't entirely rob his observation of cogency. For the point that Adams was making was that his college education gave him no sense of the world as it then was, that it left him ignorant of all that he needed to know if ever he was to have a hand in controlling the world, in shaping the course that modern life was to take. It was a criticism that became central to our thought about college education in the early twentieth century. Any man of spirited intellect who had any tincture of Adams' interest in power, who shared his desire to take part in the intelligent rule of the world, was sure to say, when he considered the substance of American college education, that it had no connection with modern life.

The same adverse characterization cannot fairly be made today. Whatever else is to be said in criticism of American colleges, they cannot be called indifferent to the modern. Among our almost innumerable undergraduate schools there is, of course, the widest variety in the quality and substance of instruction. But I think we can say that there is nowadays a direct relation between the intellectual force and prestige of any particular college and the degree of its responsiveness to modern life. I don't mean that the student can count upon his college to introduce him to all the important intellectual figures of our period, but in our best colleges he can be reasonably sure that such figures will not be excluded from his curriculum because they are not yet traditional or because they disturb the tradition. For it is now the prevailing assumption of our colleges that a study is best justified by its relevance to contemporary life, that the true purpose of all study is to help the young person to be at home in and in control of the modern world.

This is now taken for granted as the intention of the modern college, whatever the degree of success with which it is carried out, and it seems so natural and right that we can scarcely imagine that anyone might bring it into question. And there can be no doubt that it deserves our respect and praise. It has made a new demand on the American college which on the whole has been beneficial. The academic life is never as good as it could be; it never lives up to its own notion of itself; its scholars never have enough courage, or simplicity, or wit. But in my opinion our colleges are notably better than they used to be—they are both rather more serious and more vivacious—ever since they came to believe that the modern world has issued to them some sort of challenge which they feel in honor bound to meet. Our faculties are the better for this new demand, and our students are less bored by and alienated from their teachers than they used to be.

No one can possibly want to reverse the tendency to move outward toward the world which the academic life now shows. But sometimes some of us will feel a touch of uneasiness about the effects of the new and developing *entente* between the academy and the contemporary world. To speak by way of example of my own subject of literature, I have the growing sense that those of us who teach literature in its modern phase must sometimes wonder what we are up to in our enterprise, even to the point of questioning its pedagogic legitimacy. I need scarcely say that what uncertainties we may have imply no doubt of the literature we deal with. The modern phase of literature is not to be defined only by its nearness to us in time; a canon which includes Yeats, Eliot, Lawrence, Joyce, Proust, Kafka, Mann, and Gide, and which, if it is conceived in the full catholicity of its tradition, also includes Flaubert, Baudelaire, Rimbaud, as well as the later Tolstoy and Dostoievski, is obviously to be judged one of the very greatest in history. The uneasiness arises exactly from the particular nature of the greatness. For this is a literature whose force may be said to derive from its preoccupation with spiritual salvation. It is a literature which has taken to itself the dark power which certain aspects of religion once exercised over the human mind. Its purpose is to trouble and upset us, to make us doubt the value of those things which our parents, and all of respectable society, taught us we were to be most sure of. More than the secular literature of any other time, it seems to me, modern literature reaches into our most private selves. It is relentless in the questions it puts to us, questions of a shocking intimacy. The questions it puts to society are no less fierce. It is not apt to take any of the usual positions of political radicalism—indeed, to political radicalism it is likely to be either hostile or indifferent. But its moral radicalism can be so extreme as to come to the point of rejecting society itself—not merely the anomalies and injustices of some particular society, but the very idea of society.

Doubts Out of Doctrine

The spiritual intensity and the fierce personal intimacy of the classic literature of our period being what they are, the teacher must sometimes wonder if he is dealing with a subject that is appropriate to the classroom. There is, of course, one aspect of the subject which makes an obviously appropriate matter for collegiate instruction—the aesthetic of modern literature is sometimes difficult, and the teacher must deal with quite complex considerations of form and technique. Yet he knows that, important as such considerations are, they are after all ancillary to the doctrinal intentions of the works he is discussing. And eventually he must face into the doctrine. He does so, perhaps, at no small cost of comfort, for the doctrine is of a kind which requires that whoever deals with it must testify to his own sense of its truth or falsity; he must respond to it out of his own personal sense of life. It is not easy to find a way to do this which does not bring the students further into the ambience of the teacher's personality than it is right for them to be. But he does find a way, and he deals with his momentous subject as directly and honestly as he knows how. And when the semester has come to its end, he reads his examination books and term papers; and his heart sinks at what he finds there.

If his students are as able and serious as I know students can be, he will find no lack of commitment and enthusiasm. He will be aware of that quick perceptivity which yields the kind of remark we have learned to call an insight. But he will find very little coherence, very little intellectual order, and most of the essays will puzzle him as to their intention—with the best will in the world, he will not know what these students are trying to say. He will have the sense that the writers have not been concerned with any actuality he knows, neither an actuality in the world nor an actuality in literature. The seriousness and enthusiasm of the papers will make it plain to him that the writers of them must have had the experience of something real and momentous, and if that is so, he will be led to conclude that they have not been provided with the intellectual categories which can actualize experience by communicating it, by relating the strange and new to what is already familiar. No reader will be able to guess that these very gifted students are writing about books which, however far gone they are in what I have called spirituality, however far gone in moral radicalism, are nevertheless concerned with man's life here on earth, and in terms that really are susceptible of comprehension and are susceptible of exposition.

Time and Ethics

Nor is the failure to realize the actuality of the object being dealt with, the inability—in Matthew Arnold's phrase—to see the object as in itself it really is, special only to students of literature, as I discovered when, in collaboration with a colleague of the sociology department, I recently gave a senior seminar in which at least half of our students were sociology majors. The subject we were dealing with was not a contemporary one, although the concepts we used were peculiarly of our time; we were investigating the assumptions of the society of Victorian England, and the first thing that struck us was the uneasiness of our students in dealing with a *historical* subject. Despite the vivacity of their minds, they found it almost impossible to imagine the actuality of personal and social situations in the fairly recent past. The distant past might perhaps have given them less trouble, as being nearly in the realm of fantasy and comprehensible as such. Many of them, as it happened, had concerned themselves with the study of religion, and they were surely most gifted in their understanding of the more arcane aspects of theology and the subtleties of the spiritual crisis; but if we raised questions about the Thirty-nine Articles, or the disabilities of Dissenters, or the functions of a bishop, they were not merely impatient of such Philistine considerations; we had the distinct impression that, whatever religion *was* for them, it clearly had nothing to do with a religious community, a church, or prayer.

Apart from the physical sciences, most subjects that are studied in college, whatever their particular concerns, bear upon ethics, and we may say that, in their totality, they constitute our modern way of thinking about ethics. Aristotle says that a very young man is not fit to discuss ethics, and it has occurred to me to think that the elaborate abstractness, the principled resistance to the concrete, which some of us nowadays note in our students, might be the result of our permitting or requiring them to study subjects inappropriate to their years. And yet I do not really believe this to be true. I am rather of the opinion that their intellectual procedures are in large part proposed to them by the theory of education to which they are being exposed—an education which puts its emphasis so strongly on the modern.

When Henry Adams described the inadequacy of his Harvard training, his reference to Karl Marx was not casual; the very anachronism he fell into suggests that it was not. Although Adams never became a Marxist, Marx was always for him a symbolic figure, standing for beneficent subversion. Adams, for all his social respectability, was a very subversive man. "By rights," he says of himself, "he should have been . . . a Marxist, but some narrow trait of the New England nature seemed to blight socialism and he tried in vain to make himself a convert. He did the next best thing; he became a Comteist . . . He was ready to become anything but quiet. As though the world had not been enough upset in his time, he was eager to upset it more." One could not have a better clue to modern thought and art than this statement of Adams's; in the degree that the world is upset, upset it more: this is the only way we shall get things straight.

Dominance of Subversion

One aspect of the radical, subversive energy of the modern period is the increased moral and intellectual authority that has been given to desire, to will, to particular tastes and preferences. When Matthew Arnold said that the function of criticism was to see the object as in itself it really is, he meant that the ideal critic should suppress all the impulses of his desire, will, and particular taste and preference which might mislead him as to the true nature of the object. This he called being disinterested, and we can see what has happened to Arnold's no doubt primitive theory of knowledge by taking note of what has happened to the word itself. Scarcely anyone nowadays—and certainly not the latest edition of *Web-*

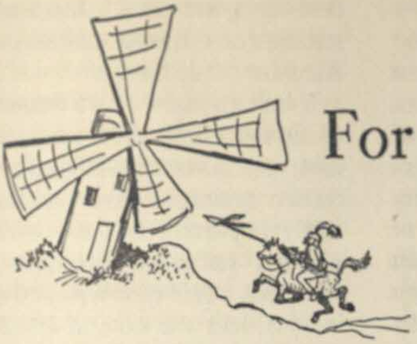
ster's *New International Dictionary*—supposes that a "disinterested third party" is anything but a bored person, and most people would reprobate a disinterested judge as one who does not pay attention to the argument. And even if the modern world can manage to conceive of disinterestedness as a virtue, it takes it to be but a dull virtue—we like a passionate subjectivity; we respond warmly to a display of desire, will, and particular preference.

It is what Henry Adams wanted—all through the *Education* we see him reaching out for the intellectual justification of a mode of thought and life that would not be controlled by a strict rationality but that would spring from the personal will and desire. And if I were to describe the present-day student at his most gifted, I should say that he too is motivated chiefly by the impulse toward free subjectivity. But it is surely not a passionate subjectivity that we see in even our best students. Reality can be mastered by a passionate subjectivity: that is what art does. But surely what must trouble the college teacher today is that his students are not mastering subjects; they are experiencing them.

Mind and Passion

If we speak of a modern energy of radicalism and subversion, the radicalism of our students turns out, that is, to be at a very low point on the general curve. And if we wonder why that is so, we might bring it to mind that the modern radical subjectivity first put forth its strength in opposition to a very strong antagonist—it undertook to upset the authority of the ancient idea of Mind, of intellect detached from the passions and all uncircumstanced. The effectual resistance to the traditional idea of Mind was an assertion of life itself. It was necessary; it was salutary. And it is still necessary and salutary. But if the radical subjectivity is to be maintained in all its potentiality of creativeness, it must be met with a countervailing force. It must be confronted with the mind that insists that things are so and not otherwise, that the object is as it really is, that the world is intractable as well as malleable. And such a countervailing force must, I believe, be specifically offered to the radical subjectivity of our students, else they will never develop their powers of intellectual mastery; they will fall into inertness and the weariest of all conventionalities, the conventionality of an outworn radical mode.

I do not know how this is to be done. I cannot say by what intellectual disciplines, techniques, or attitudes this countervailing force might be established in our colleges. But I am sure that if we are to develop in this country an intellectual class of the kind that we deserve and need, our colleges must complicate—complicate, not retract—their commitment to the modern. If, as I believe, the modern energy of radical thought is essentially good, then we as teachers, we as colleges, shall have to guard against subverting it by mere bland tolerance, or by a Philistine delight in its intent of outrageousness. It is best for us, it is best for the state of the general culture, it is best for the poet himself, that we do not establish William Blake, Tyger and all, as the Poet in Residence. That is the way to destroy William Blake and the Tyger. When it comes to dealing with the subversive energy of modernity, the right way is to keep our doors hospitably open to a powerful and unpredictable guest, but not, by our household familiarity with him, rob him of his frightening strangeness.



For the Record

Democracy as dialogue

Alexander Pope, who helpfully reminded us that "The proper study of mankind is man," gave us another celebrated aphorism in one of his famous couplets:

> For forms of government let fools contest;
> Whate'er is best administered is best.

Remembering the administrative efficiency of Nazi Germany, Fascist Italy, and other totalitarian examples, both state and private, that have been "best administered" but high in inhumane horror, we may feel justified in ignoring Pope's lines as an unhappy outcome of probability theory: Whoever writes as much as he must sometimes produce nonsense. Before we do so, however, it may be well to muse for a moment on the extent to which these clever words contain a disquieting prophecy.

The visionary faith in democracy, for example, could once be simply stated. Democracy means, in essence, self-government, and self-government means participation by individuals in the making of those decisions affecting their life and welfare, including the fundamental intangibles of liberty and happiness. If his participation must be mediated through elected representatives, the individual yet retains his vote and his voice in the processes of choice; his representatives are responsible to him and must pay heed to him if they like their jobs of representation well enough to want to keep them. While these straightforward principles originated in relation to government, they apply to all institutions, and the individual enjoys his special status as the touchstone of value to the extent that corporations and unions, political parties and the military, schools and voluntary organizations like professional societies, are democratized.

It all sounds familiar and reassuring. Yet to what extent are most of us as individuals participant in the decisions affecting our lives, our fortunes, and our happiness? In a society that has become huge and heterogeneous, the complexity of our political machinery defies full understanding, especially in the crucial field of foreign affairs, by any man not devoting his full time to the job. The distance between representative and represented becomes so great as to be irrelevant, so a remarkable proportion of us don't even know the names of our councilmen or those who presumably stand for us in a state legislature or the Congress. Worse, the impact of technology has been such that decisions of fateful moment require a technical sagacity in which most of us are thoroughly lacking. How we decide questions of whether to make an atomic bomb or land a man on the moon determines the very nature of the world we live in, to say nothing of the magnitude of our taxes. It is currently possible for us, "if we want to," to eliminate the entire stratum of middle management in American business and industry no later than 1985 by substituting machines that better perform the functions involved. At the moment, jobs in middle management are the destiny of most of our middle class, the backbone of our society. How many members of our middle class are participating in the determination of where and how fast this transformation, which will radically revise our concepts of work and leisure and just as radically require new conceptions of how men win a sense of self-respect, shall take place?

It is little wonder, then, that a "record turnout" at the polls is hailed when only half our eligible citizens exercise their right of franchise, and one can only nod in comprehension when political analysts tell us that get-out-the-vote campaigns can be dangerous. Ballots cast by the ignorant are likely to be those cast in prejudice or under the direction of some self-interested seeker after power; apathy in such a case may be a protector of the public good. Similarly, the prayer of many of us seems to be more and more for order, for efficiency and economy in public affairs, and for the maintenance of those historic rights of private life, the small personal sectors of living which government is forbidden to enter. In short, with a sop to individual latitude thrown in, we seem remarkably close to settling for the idea that whate'er is best administered is best.

It isn't enough! If we mean what most of us say about free societies and free men, administrative efficiency and protection against arbitrary power, though vastly important in themselves, are simply not sufficient. Freedom has never been free, a fact that was well understood in 1787, and the cost of freedom in our time is education. Freedom is what democracy is all about, and to achieve freedom under modern conditions, we must transform ourselves into a community of learning.

Obviously, this statement of the price of freedom implies not an exercise on the grand scale in communal scholarship of a traditional sort—although such would be no bad thing. Rather, it implies an organized and intensive effort to enlarge the understanding of every man of the world he lives in. The job must be begun, of course, in the schools, but it equally must be conceived as a lifelong process. The rate at which knowledge now accumulates simply underscores the need given by the requirements of democracy. As Lewis Mumford once put it,

> The man who has been educated in 1956 and hasn't gone on with his self-education ... will be uneducated in 1976. We have to think of revising the . . . curriculum along with our whole scheme of work, to plan for a life-time education for all of us who are capable of taking advantage of it. The professions may even have to organize sabbatical years for study to accomplish their larger purpose of maintaining a high level of technical efficiency without debasing, through inanition and neglect, the human values we must nourish and cherish.

A democratic civilization, in Robert Hutchins's phrase, is a kind of dialogue, "where instead of shooting one another when you differ, you reason things out together." One can be a strong dissenter from many of Mr. Hutchins's ideas and still shout huzzahs in response to this characterization of democracy as a dialogue. It implies clearly the necessary relationship of education to a free society. In order to "reason out" the issues of contemporary life, men must have knowledge and must have won in some degree the habit and the technique of reflection. "Men" here means all men, for the democratic faith demands universal participation of a responsible sort in the making of crucial decisions. Therefore, all men must be continuously educated so that they can think wisely about their own life and happiness as important parts of the public life and happiness within which they move and have their being. Because the relevant problems are complex and because conceptions of wisdom about their solutions may rightfully differ, a condition of the democratic dialogue is dissent and the regular re-examination of the principles, the processes, and the institutions by which we live. The lifelong education which is the price of our freedom must focus on the technique of dissent, not as a form of argument or clownish self-assertion, but as the mechanism by which we take an informed and fresh look at our old assumptions and at the new possibilities confronting us.

Here one cannot avoid a platitude: For such a conception of lifelong education to take hold, adequate leadership is urgently necessary. It is for this reason that one is properly disturbed by the withdrawal of support by the Ford Foundation from the Center for the Study of Democratic Institutions. (Even more generally, one is entitled to concern over the Foundation's policy to invest only in those enterprises likely to become self-sustaining, but that is a somewhat different story.) The enterprise of the Center, called by Supreme Court Justice William O. Douglas "the most important educational work in the United States today," is as straightforward as it is all-encompassing. It is that of examining the major institutions of our century in the light of their implications for the continuation of democracy.

To this end, like the Centers for Advanced Study at Princeton and at Stanford, it gathers thoughtful men together and makes it possible for them to concentrate their attention on special issues and problems. Unlike its Princeton and Stanford counterparts, the Center for the Study of Democratic Institutions provides a theme, the challenges to democracy in the contemporary world. It similarly supplies a commitment—to democracy as the form of government best suited to the political animal that is man. Within the framework of this theme and this commitment, the Center has sponsored discussions resulting in publications that have ranged through population control to the Eichmann trial, from the functioning of the police in a democratic state to the impact of automation on a free society, from foreign policy to the relationship of the creative writer to the demands of television. Participants have included Harrison Brown, Aldous Huxley, Jonas Salk, Kenneth Boulding, Paul G. Hoffman, Walter Millis, Harry S. Ashmore, and a host of distinguished others.

It is conceivable that under the presidency of Mr. Hutchins, the Center has been administered on a more costly basis than necessary. A greater degree of asceticism might even be beneficial for life on the 41-acre estate in Santa Barbara, California, where the Center is located. But that is not the point. The Center is certainly the outstanding and perhaps the only ongoing model of that continuing dialogue among free men that defines a democratic civilization. It is there that we have the realized vision of people of different persuasions sitting down to "reason out" the ways by which the democratic faith may be maintained and enhanced in the face of the contemporary world's complexities and its rampant hurly-burly of change. Here is the image of lifelong education in operation, and we cannot afford to be without it.

In his life of Father Joseph, the famous and politically powerful *Grey Eminence* of Cardinal Richelieu who was also a Capuchin mystic, Aldous Huxley deals with the question of what "use" mystics are to earth-bound humanity:

> where there is no vision, the people perish; and ... if those who are the salt of the earth lose their savour, there is nothing to keep the earth disinfected, nothing to prevent it from falling into complete decay. The mystics are channels through which a little knowledge of reality filters down into our human universe of ignorance and illusion.

For those of us who are not and cannot be mystics, Huxley's point still has cogency. Institutions like the Center are channels through which a little knowledge of the reality of democracy and its vigorous potentialities filters down to men with the impulse to freedom who, in the face of modern perplexities, grow wearily willing to settle for less. It is a reminder of the possibility inherent in a lifelong educational process that matches the requirements of democracy. For this reason, we hope the Ford Foundation will reconsider its decision to withdraw its support and, with the help of all of us, insure the Center's continuation.—EJS

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Advertising—an agonizing reappraisal

IT SEEMS TO ME NOT UNLIKELY that some future Charles Beard or Bruce Catton, in handing down the historian's Olympian judgements on today's America, may single out for special comment the ten years which followed the launching in October, 1957, of the Russian Sputnik I. Indeed, they may well call this period the Decade of Agonizing Reappraisal.

At any rate, never in the history of these United States did any single event touch off such a prolonged frenzy of self-criticism, breast-beating, wailing, and finger-pointing. It was a truly traumatic experience for this nation—worse, in fact, than when the Russians got the Bomb. Then we could tell ourselves that they only got it because they filched our secrets from us, and not because Russian science was much more advanced than our high school physics. We could go on believing that the Russians were crafty and devious, yes, but that they were actually just clumsy peasants who could scarcely be taught how to use a monkey wrench.

Sputnik I vaporized all such agreeable delusions. The idea that the Russians could heave a 184-pound ball way out into outer space and make it prowl about the earth was then so awesome it was frightening—particularly when we ourselves couldn't do it and did not know if we could *ever* do it.

Mirror, Mirror on the Wall . . .

So Americans began angrily to berate each other. The obvious place to begin the berating was with American science. What in the world ailed it? Why *couldn't* it throw so much as a baseball into space? Soon we were being told that Russian physics was light years ahead of ours, that our engineers couldn't hold a candle to theirs in either quality or quantity, that Russian secondary school science students knew more than our graduate engineers, and so on. And from there we progressed by easy stages to questioning our whole educational system, the seriousness of American students, and the quality of our teachers and textbooks.

In our new mood of self-flagellation, we also began to look askance at our national character and wonder if we really were the fine, generous, honest people we had thought we were all these years. Look at the rigged quiz shows and cheating students and crooked policemen and controlled judges! Had our ethics turned brown around the edges? Was America going the way of ancient Rome? As for our physical condition, obviously, we were collectively as soft as a feather bed.

Most alarming of all, we had no National Purpose.

Yes, it has been Throw-Stones-at-Ourselves Week for quite a while now. Nothing has been sacred, not even home and mother—*especially* not home and mother—or father.

Possibly an advertising man can observe this hurricane of criticism ripping holes in other people's areas with some faint degree of objectivity. But it happens that the winds of criticism which blow so briskly in what John Kenneth Galbraith (2) calls "these days of massive introspection" have also been huffing and puffing even more portentously than usual around the house of advertising. And although an advertising man is no stranger to criticism, I find some of the new anti-advertising statements difficult to swallow whole. Especially when some people would apparently find it to their taste to blow advertising's house down.

Not that anyone should object to valid criticism: Nothing but good can come from honest, intelligent criticism. The trouble is, as usual in this illogical world, that only a small part of the criticism of advertising takes off from solid ground. Much of it is emotional, and much of it appears to be talking in a vacuum, with little or no relation to economic realities. A considerable part of it comes from educators, but by no means all; the man does not live who has not at some time been annoyed to exasperation by an advertisement.

No intelligent advertising man (and only a normal proportion of them is unintelligent) objects to criticism of advertisements—individual messages, written or spoken. Indeed, no one rails at certain advertisements more violently than do advertising people. But when it comes to flailing about with sweeping generalizations about advertising as an unmitigated evil, that is something else again.

To turn the coin over, it is also fair to say that some of those who have donned armor to defend the fair name of advertising have been even more absurd than their critics. All too often, the subject has been argued on both sides with a red face and high blood pressure.

It is the purpose of these observations, therefore, to put the subject in slightly better focus, without, at the same time, baying down every economic trail which might profitably be explored.

Who and for Whom?

The first thing to bear in mind in discussing advertising, it seems to me, is that there is actually no such entity. There are only individual advertisements, created and approved by people with all the individual strengths and frailties that distinguish mankind.

This would seem to be so obvious as scarcely to warrant mention, but the point has been completely ignored by some notable critics. It is easy and tempting to say that "advertising exaggerates wildly" or that "advertising makes people want things they cannot afford." Yet this makes no more sense than to say that salesmanship is exaggerated or that teaching is unintelligent. People who write and okay advertising are as different and as varied in talent and ethics as are salesmen and teachers, and sweeping generalities just won't do. There is no point in confusing the container with the thing contained.

The advertising process is so ubiquitous in America that almost everybody gets into the act, beginning with the classified ads in the newspapers, which are laboriously and lovingly composed by whole families with old pianos or lawn mowers to sell. In every department store and in millions of specialty shops from Brushy

Fork to New York, people of varying degrees of education, talent, integrity, and taste work hard at setting down one word after another about the merchandise offered for sale. There are 4,200 advertising agencies in the country, each employing anywhere from two to 2,000 people, in which the act of creating advertising is taken with the utmost seriousness, and which compete with each other aggressively for talented people. And there are also hundreds of thousands of small businesses whose advertising is apt to be written by the boss's son right out of college or by the relative who really wasn't much good at anything else.

In short, advertising reflects people and contains all the talent and stupidity, brilliance and bad taste, inspiration and dullness that mark the remarkably varied collection of individuals, who, in a dozen ways too technical to go into here, had a hand in giving it birth.

Another point which detractors of advertising in America should bear in mind is that one must *expect* to be annoyed by advertisements on occasions. This is inherent in advertising's role in the economy. The person who is moved by his annoyance to damn all advertising is revealing more than his bad temper. There are two chief reasons, entirely aside from the quality of the advertising, why this is true, especially in broadcast advertising.

The first is that the advertising is apt to be talking about something in which you, the listener, haven't the slightest interest. It is like the woman who insists on telling at length about her operation, giving you absolutely no chance to talk about yours. Nothing could be more exasperating. If, for example, the advertising is extolling the merits of a new refrigerator, and your own refrigerator is barely a year old, you could scarcely be less fascinated. The fact that the young couple next door with the broken ice box is taking in every word does not lessen your boredom in the least.

The second reason why advertising—again, particularly broadcast advertising—is bound to be often annoying is because of a recent phenomenon in which we Americans rightfully take great pride: the explosion of the middle income group. People with little education and a background that includes few social advantages have suddenly acquired good incomes. They are prospects for every item in the supermarket and for services as divergent as Arthur Murray dance lessons and life insurance.

Multiplying Common Men

In 1880, for example, the disposable income in America—what is left to spend or save after payment of all taxes—was $26.7 billion. Today it is more than 11 times that. Between 1929 and 1956, the families in the lowest income group (under $2,000 per year) fell from 12,900,000 to 8,300,000, those between $2,000 and $4,000 remained about the same, and those above $4,000 rose from 9,200,000 to 30,900,000 (1). Between 1950 and 1960, the number of families with real incomes over $10,000 increased 167 per cent in terms of 1960 dollars.[1]

For the time being, then, there is in the United States a *nouveau riche* class, tremendous in numbers, whose family incomes have risen faster than their tastes and culture. It is the group that Joseph Wood Krutch (*4*) must have had in mind, when, a few years back he asked the question, "Is the common man too common?" and answered it in the affirmative. It is also this group who will so largely buy the products that make the jobs that provide the incomes and supply the profits that pay the taxes and accumulate the capital that powers our economic growth. But mass advertising, which must be common-denominator advertising if it is not to go over the heads of our new rich, is almost certain to annoy intellectuals. This is not, I must point out, a phenomenon which is confined to advertising. Such mass-directed Americana as movies, popular songs, and comic books have an equal capacity to irritate eggheads, and for precisely the same reasons.

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[1] According to Dr. Arno Johnson of the J. Walter Thompson Company.

Happily, this condition is changing, and changing swiftly. The educational level in the country is on the rapid rise, and if our tastes climb aboard the same elevator—not at all a foregone conclusion—the level of mass-directed advertising will rise with it. In the meantime, perhaps in the interest of balance and humility, intellectuals might recall Abraham Lincoln's compassionate observation, "God must have loved the common people. He made so many of them."

The most common mistake, from my point of view, made by those who view advertising through a glass darkly, is in treating it as though it existed in outer space, without relation to the American society which spawned it and of which it is a characteristic part. It is like considering a stand of wheat while ignoring the ground on which it grew, or considering an arm without relating it to a body. It would not make much sense to conclude that Americans were stupid because few speak anything but English, whereas the Swiss are brilliant because they speak several languages. In other words, for true perspective, a fact must be considered in relation to the circumstances which underlie it.

Advertising is a manifestation as well as a builder of a highly industrialized society. It can be judged only in relationship to this society. Indeed, according to historian David M. Potter of Yale (*6*), advertising comes close to being a uniquely American institution, upon which our free press and our whole system of mass communication is built. It is, in considerable part, responsible for the beanstalk economic growth of this country in recent years—which, in turn, is one reason, perhaps, why the US economy is currently "resting." Economist Arno Johnson points out that in the 32 years between 1929 and 1961, we added $194 *billion* to our total personal consumption, an amount roughly equal to the entire growth in the 320 years between the landing of the Mayflower in 1620 and the best pre-war year of 1940. This trend to greater industrialization will continue, for, as Gunnar Myrdal (5) has observed, it is the industrialized countries which are industrializing further.

Price of Progress

Yet few things in life are an unmixed joy, and our swiftly industrialized society makes us pay a certain price for its conveniences, efficiencies, and opportunities. Take, for example, that world-renowned symbol of US productivity and prosperity called the automobile: We proudly point out to foreign visitors the crowded parking lots adjacent to our factories, jammed to the last inch with workers' cars. There are few more striking examples of our economic egalitarianism. Few Americans would wish the automobile away; we accept it as a modern necessity. Yet there is no denying that it has brought with it a whole host of nightmares. Motorists die hideously in highway accidents. Families on wheels litter the roads, parks, and woods with the ugly refuse of our convenient living. Automobile graveyards, with acre after acre of repulsive metal carcasses, are open sores on the countryside. Traffic jams threaten to choke our cities to death. Smog and fumes are becoming a national problem.

Or, if you prefer, consider what our high degree of industrialization has done to our once pure streams and rivers. Sewers and industrial wastes have made the unpolluted brook a rarity.

Industrialization, as it progresses, brings with it enormous benefits, not alone material. It provides unique opportunities for men to expand their horizons and enlarge their souls. It permits the great majority of us to rise far above the age-old, grinding struggle for mere food and shelter. Yet it also brings undeniable negatives which tax our ingenuity to correct. If it also brings some negatives perpetrated by those who use advertising, certainly no one should be either surprised or shocked. Indeed, what field, in this stage of swift Yankee industrialization, is free from them?

Furthermore, to repeat an earlier statement, advertising is a manifestation of people, and reveals the characteristics and character of those who created it. American advertising most certainly reflects American traits, just as French advertising mirrors Frenchmen. It is quite unreasonable to expect it to be anything else. Hence, the critic of American advertising might well pause and ask himself, "What kind of people are we?"

The world says we are materialists, and I think the world is pretty much right. Nor do I see anything wrong in being materialists, as long as this does not exclude time and opportunities for cultural and spiritual development—which, in America, it certainly does not. There are few peoples in the world who do not want the burden of daily living made as light as possible, and I have never seen a people refuse to lighten it if they had half a chance.

We are also inclined, I think, to be enthusiasts, and are still young enough as a nation not to have been deeply overlaid with the cynicism of, for example, the French. No doubt we are, as a whole, somewhat naive, but this, like other qualities associated with youth, is not without charm. There is a bit of the Texan in all of us, though perhaps not about the same things.

As I have driven along some of the roads of Europe, I have pondered why our American highways are often so tawdry. I have concluded that, in addition to such manifestations of our industrialization as heavy traffic, a basic explanation lies in the American character. The American entrepreneur who opens up a restaurant or a roadside stand is both enterprising and practical. Unlike his European cousin, he is not content merely to run his little business, but he sallies forth in all directions to nail signs on trees pointing out the virtues of eating at Joe's. Or, if he runs a gas station, he orders a mardi gras of banners that flutter or pinwheels that spin to flag the attention of the passer-by. He is, in short, the logical descendent of the determined and vigorous immigrant who pulled up his Old World roots to seek his fortune on a strange continent, or who loaded the covered wagon to head West. He is practical and pragmatic rather than esthetic, and America and American folkways reflect him.

Madison Avenue, Moscow

Thus far I have ignored some of the economic arguments about advertising—for two reasons. First, the human element in the situation has been the most neglected; second, the equating of advertising with waste seems to me to be self-defeating. In these days of the profit-squeeze, every company hunts waste with a magnifying glass and a battery of computers, yet advertising expenditures continue to rise.

To those who credit such arguments, however, there is now disconcerting new evidence from a society which, in theory, has scorned advertising as a capitalist depravity. I refer, of course, to the USSR. To be sure, every channel of Soviet communication has advertised the joys of economy-sized Marxism at home and abroad without much relation to the facts, but this has not been considered advertising by the Soviet fathers.

According to a study recently made by Professor Marshall I. Goldman (*3*) of Wellesley College, who is also an Associate at the Russian Research Center of Harvard University, the Russians are adopting, in the interest of greater efficiency, the very practices castigated by certain critics of US advertising as inefficient and adding little to social welfare. There is waste, these critics allege, in tolerating a number of similar products which pour out their advertising dollars merely to attract the customers from Tweedledum to Tweedledee.

Professor Goldman quotes a Soviet economist, V. A. Nikiforov, as explaining the new communist party line in marketing. It seems that the products of different firms in the same industry or ministry are to be hereafter differentiated. In fact, the goods are to be plainly identified by a *proizvodstvennaia marka* or production mark. Comrade Nikiforov's rationale on the subject has a familiar ring: "This makes it easy to establish the actual producer of the product in case it is necessary to call him to account for the poor quality of his goods. For this reason, it is one of the most effective weapons in the battle for the quality of products." No doubt the trademark is another Russian invention.

Up to now, the Russian consumer has had no choice except to snatch up whatever products were offered him, shoddy or not. Soviet Russia has been, and is, a sellers' market, and the buyer cannot afford to be choosy about quality. Hence, the deliberate distinction between products Tweedledum and Tweedledee is not needed as a tonic to sales (almost anything will sell) but to protect the buyer against sleazy quality. By giving the output of each factory a separate mark, the Soviets hope to use consumer pressure to raise quality levels. Products of low quality are being held up to scorn. Recently, the trade paper *Sovetskaia Torgovlia* proclaimed that Pobeda clocks produced by the Zlatoustovski Watch Factory were of poor quality, and the firm was told to stop making them. A pep-up campaign is on to glorify the Factory Mark, with such slogans as "To Value the Honor of the Factory Mark is the Duty of Each Group of Workers," "Let There be Respect for the Words 'Made in Sakhalin,'" and "A Capital Mark"—meaning made in Moscow, the Soviet capital.

Thus, even in a country where the consumers still can exert little pressure because the choice between products is so limited, the Russians are learning what free societies have known for years—that differentiation and competition between products is very much in the consumers' interest. Says Professor Goldman (*3*),

> It should be pointed out that the amount of advertising and product differentiation required to reduce the over-all cost of distribution need not reach the proportions found in the West... nevertheless there now seems to be considerably more advertising and product differentiation in the Soviet Union than at any time since the start of the five-year plans. In addition to the increasing utilization of newspaper ads, posters, billboards and handbills, there are now even radio and TV commercials. Advertising agencies have been opened by the State and a special journal devoted especially to advertising was introduced in 1958... By 1965, it is hoped to have 30-40 different brands of radios and phonographs and about 20 types of television sets. Differentiation extends even to laundry soaps and detergents.

Thus does the brave new world of communism turn, in its quest for efficiency, to the very practices scorned by certain Western theorists as "inefficient."

The Adman in Public Service

There is a certain stereotype of the American advertising man which, launched some years ago by Frederic Wakeman's *The Hucksters*, has proved to have astonishing durability. This sprightly portrait of the "adman," layered over with additional images in the same vein, has permanently associated him in a considerable segment of the public mind with the dry martini, sex, and dubious deals—in approximately that order.

Now "images" are notoriously untrue to their originals, and no one should be unduly excited by such chimeric libels. My rebellion is therefore mild. I have met a few rascals in my thirty-odd years in advertising, but have found most advertising people to be bright, hard-working, and with above-average talent. As to their character, I offer only one piece of evidence.

For twenty years, beginning with the early days of World War II, the advertising industry has maintained a remarkable public service through The Advertising Council. It is a contribution to the country which is unmatched by any other industry. The Council is run by a Board of Directors representing all phases of advertising—industries which use advertising, advertising agencies, magazines, newspapers, broadcasting, outdoor, and transit advertising. The Board selects the 14 or 15 national projects which it considers to be of importance, enterprises of either a government agency or of a non-profit private organization. Advertising agencies then prepare the advertising for these campaigns free of charge, and the advertising space for them is donated by the media or by advertisers.

Through this remarkably altruistic system, there are carried on in America campaigns to sell US Savings Bonds, to reduce forest fires, to lessen traffic accidents, to recruit for the Peace Corps, to spread a more informed and sympathetic understanding of mental illness, to increase support for colleges, and many more. About $225 million worth of free advertising is mustered annually for these undertakings, and millions of dollars worth of agency service is performed as a labor of love.

Since the Council has done only a minimum of horn-blowing, the results of this work are little known. Here are a few of the things that have happened coincident with its campaigns:

> Forest fires in America have been cut in half, and acreage burned is now less than 10% of the pre-war average. This in spite of greatly increased use of wooded areas.
>
> Contributions to colleges have been stepped up as follows: from alumni, an *increase* of $107 million; from non-alumni, $108 million, and from business firms $91 million.
>
> 30,000 people have filed applications for the Peace Corps.
>
> 93 million people were persuaded to have one or more polio shots.
>
> The motor vehicle deathrate has been more than cut in half.
>
> $4.539 billion worth of small-denomination US Savings Bonds were sold in 1961. In all, $44.485 billion worth of E and H Bonds were outstanding—more than $1 billion *over* the total in 1960.
>
> Contributions to the United Community campaigns totaled a record half billion dollars in 1961; contributions to the Red Cross totaled more than $85 million.

If you suspect that this notable mechanism of public service is carried on as a public relations gesture for advertising's "image," you will be right, but only partly right. Of the six Council sponsors, the advertising agency group is the only one whose personnel are known as "advertising men." The others are steel men, newspaper men, television men, or magazine men—not at all tied to the advertising image. The Council's major financial support comes from industries of every description to which advertising is only one of many business tools which they use.

Self-Interest and Decency

Self-interest alone would scarcely sustain a public service of these dimensions over two decades. It exists and flourishes only because through most of the men and women who are in some way connected with advertising, there runs a vein of sentiment and patriotism. Besides, it is a refreshing change for writers and artists occasionally to focus their creative talents on bonds instead of beer. Moreover, they share with me a concern for the battle of ideas between the free and communist worlds.

While Lenin and his successors have believed profoundly in propaganda and have used it intensively, cynically, and with skill, we in America believe in it very little and use it timidly. We have been, I fear, so infected by those who have heaped scorn on advertising that we mistrust our part in the war of words and wish the whole ideological contest would go away.

Our overseas information program is frequently attacked as "globaloney" and a waste of money. Like domestic advertising, it has its critics who make scornful references to "selling America like selling soap." It is easy to make the program a political football and a weapon with which the "outs" belabor the "ins," for its few friends are seldom vocal enough to carry weight with vote-conscious Congressmen.

Let Congress cut a farm appropriation or a military expenditure, and the howls of pain and anger will be heard from coast to coast. Yet Congress can and often has cut the heart out of the appropriation for the US Information Agency, which runs our overseas propaganda, and not a murmur will be heard. Except for an occasional protest by an advertising group, nobody raises his voice to point out that the lawmakers are providing insufficient ammunition in the only hot war being fought today—indeed, a war perhaps more likely to decide our fate than a nuclear holocaust which may never come.

Danger of Economy

To explain United States foreign policy, to transmit accurate news of events, to make clear our motives, to identify ourselves with the rightful aspirations of emerging peoples, to publicize US foreign aid, to combat communism, to destroy some of the damaging myths about us—for all these enormous ideological tasks and many others, the Congress gives USIA about $140 million annually to conduct campaigns in ninety countries around the world. This is perhaps one-twentieth of what our communist opponents spend. It is $50 million less than one company spends in the United States alone to sell its products.

Money has been doled out in such a niggardly fashion to the Voice of America, as the broadcasting division of USIA is called, that throughout a large part of the world its signal has been almost inaudible, while either Radio Moscow or Radio Peiping comes in loud and clear. Communist bloc broadcasts to Africa have more than doubled this year, following the communist practice of striking both where and while the iron is hot. Fortunately, the power and coverage of the Voice is being stepped up, but the crises increase faster than USIA appropriations.

With powder-keg situations throughout Latin America, it would not be too much to invest the entire USIA appropriation in that troubled region. Through their Cuban beachhead, the communists are pouring both agitators and propaganda into Latin countries writhing in the throes of social change. Our Alliance for Progress program—which might offer hope for better times to struggling peoples—has been so little publicized it is relatively unknown in many areas; it has been one more task piled on top of an accumulation already beyond the scope of the Information Agency's funds.

In any good program of public relations, there must be both the deed and the word. Our deeds, by and large, have done us credit, but if the word is lacking, the effect is zero. Our opponents, by virtue of an overpowering and aggressive propaganda program, unhampered by much regard for the truth, have been astonishingly successful in convincing the unsophisticated that black is white.

This disparity between the communist and free world ideological effort is, alas, not apt to be soon remedied. For sufficient distrust has been sown so that an effort which is, after all, essentially advertising, is unlikely to receive any outpouring of public support. Only those who have studied the two programs, who have observed the shrewd, cynical, and open-handed way by which the communists gain control of channels to the public in critical countries, view the unequal propaganda war with proper apprehension.

Advertising, particularly in America, is an economic work horse which has performed prodigious feats with very little credit. It is a work horse which, like it or not, must largely be depended upon to pull the American economy uphill. Yet there is no denying the work horse has some annoying habits. He pokes his nose in places where he is not wanted. He sometimes has horse flies and needs a deodorant. The thing to remember is that he *is* a work horse and a very useful one. It may be all right to whack him occasionally, but since we all ride behind him, there is no point in tripping him up.

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The measurement of creativity

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THE PAST DECADE HAS witnessed a marked upsurge of interest and publication in the general field of creativity. Some of this interest has focused on developing more fully the creative potential of every pupil, but even more interest has been directed at identifying those who appear outstanding in creativity or in potential for creative work, in studying and understanding these individuals, and in providing optimum conditions for their development. Among the most active workers in this field have been Guilford and his associates, McKinnon and the group at the University of California's Institute of Personality Assessment, Getzels and Jackson, and Torrance.

All of these investigators assert with some vehemence that creativity is different and distinct from the type of abstract intelligence that is measured by our established intelligence and scholastic aptitude tests. In support of this, they point to the quite modest correlations that they obtain between conventional intelligence tests and tests they have designed to measure aspects of creativity. Correlations cited have typically ranged from near zero to as high as perhaps .40.

In the light of this evidence, we must agree that the "divergent thinking" or "creativity" tests are not measuring the same attribute or attributes that are measured by the conventional intelligence tests. We should ask, then, what they *are* measuring. In particular, we should ask whether there is any common characteristic running through these tests to which the common term "creativity" may legitimately be applied. This is an important question, because if the various so-called "creativity tests" are measuring different and largely unrelated characteristics of people, then using a common term to include all of them, or applying a common designation to groups of people identified by different ones of them, can be productive of nothing but confusion.

An examination of the different "divergent thinking" or "creativity" tests described in the recent literature brings out as their distinctive characteristic that the examinee must *produce* answers, rather than select the appropriate one from among a set of choices presented to him. Also, he is usually called upon to produce multiple responses rather than just one. Thus, he may be asked to list all the uses he can think of for a bobby pin. The content with which the examinee works may deal (1) simply with words, as when he is asked to produce words beginning with *p* and ending with *t*, (2) with verbally expressed ideas, as when he is asked to produce titles to go with a brief story, (3) with practical devices, as when a child is given a toy dog and asked to suggest improvements on it, or (4) with aesthetic materials, as when the examinee is asked to improvise designs using certain basic given materials. Responses may be scored for (1) fluency, *i.e.*, the total number of responses produced, (2) flexibility, *i.e.*, the number of shifts from one kind or category of response to another, or (3) originality, *i.e.*, the unusualness of the responses produced. These categories are only suggestive; other possible combinations of materials, operations performed upon them, and bases for evaluating the results are clearly possible. To what extent do these varied tests tap some common function of "creativity"?

Over the years, the concept of *g*, or a general intellective factor, has been subjected to a good deal of battering by its critics. But it has survived as a concept having a degree of both theoretical plausibility and practical utility because the different cognitive sub-abilities—verbal, quantitative, spatial, deductive—are linked together statistically by appreciable correlations. The result is that any one reasonable assortment of tests of these sub-abilities correlates quite substantially with any other reasonable assortment. Thus, allowing for chance errors of measurement, any one intelligence test will identify most of the same pupils as "bright" and "slow" as will any other.

However, an examination of available published data on "divergent thinking" or "creativity" tests suggests that overlap and equivalence between different subtests is much less characteristic of this field. Correlations among different sub-abilities that have been identified as factors in divergent thinking appear to be quite low—substantially lower than is typical of the "old line" cognitive factors. So "fluency" and "originality" appear to have little in common, and these in turn appear to show only a slight overlap with "flexibility." When we remove whatever factor all of these tests have in common with the "old line" cognitive tests, the remaining overlap among different "creativity" tests is further reduced. The data suggest that there remains *some* modest common core running through the different tests and making for correlation among them, but this common core appears to play only a minor role so far as success on any given test is concerned.

The issue of the extent to which one common factor runs through different "creativity" tests is one of considerable importance both for research in the field of "creativity" and for the possibility of eventual practical use of the tests. If tests of different "creativity" sub-abilities show very low correlations, then which children will be identified as creative will depend very heavily upon the particular collection of subtests that is used. One assortment, with one type of content or process emphasized, will be likely to pick out quite a different group of "creative" pupils than will a different assortment with a different emphasis. If the groups of pupils are different, their characteristics may be quite different. That is, one group of "creative" children, identified by one set of tests, may score high on tests of academic achievement, whereas another, chosen by a different battery, may not; one may be unconventional in its aesthetic choices, whereas another may be the reverse.

The low correlation among "creativity" tests has received little attention from those who have worked with them. Thus, though Getzels and Jackson are emphatic in pointing out the low correlations of their tests with IQ, they say nothing at all about the equally low correlations among the "creativity" tests themselves. And though Torrance has expressed commendable concern about reliable scoring for individual tests in his battery, he has provided only a minimum of information about the extent to which the different tests measure a common function. At the present time, the tests are offered to the public only as research tools, and this is certainly as it should be. However, if we are to comprehend the research done with the tests, or the nature of the groups selected by some combination of them, it is imperative that we get a better understanding of what the different tests that are offered to us as "creativity tests" actually measure, and of the degree of equivalence among different tests and test batteries. If, as now seems to be the case, the different subtests show quite low intercorrelations, and show even these in part because they all involve a little *g*, then we are ill advised to pool the subtests into a common total with a common name, either in our treatment of the results or in our thinking about the field. We should use different designations for different tests or closely related clusters of tests, reflecting the distinctive nature of each, *i.e.*, "verbal fluency," "originality of graphic production," etc. We should identify selected groups of subjects in terms of the quality or qualities upon which they are selected, *i.e.*, a group of pupils high on flexibility of verbal responses, or a group of pupils fluent in identifying problems. We should be most circumspect in using such a global and value-laden term as "creative."

The extension of our appraisal instruments to aspects of divergent and productive thinking is an exciting and promising field for investigation. However, this field needs a good deal more of basic inquiry before the structure of its domain will be clear to us, or the practical utility of different types of divergent thinking measures will be determined. In the meantime, we will be well advised to use with a great deal of tentativeness the term "creativity" as applied to any or all of the tests, or "creative" as applied to children selected on the basis of them.

Book Reviews

Chauncey, H. (Ed.). *Talks on American Education.* New York: Bur. Publ., Tchrs. Coll., Columbia Univer., 1962. Pp. viii + 147. $1.50.

What should the "average intelligent foreigner" know about American education? What false conceptions does he have that ought to be clarified? What questions does he most frequently ask when he meets American teachers or educators? The originators of the Voice of America's education series probably pondered issues such as these when they organized this series of thirteen lectures now issued as a short paperback.

For reasons that may be perfectly sound—but which are not perfectly obvious—the series concentrated on two issues: the diversity of American educational patterns in general and in American higher education in particular. As a result, a certain imbalance obtains. Two-thirds of the chapters deal primarily with some phase of higher education: one deals primarily with secondary education: none deal primarily with elementary education *per se.*

It is doubtlessly true, as the editor tells us via an unwitting quotation from one of his contributors, that foreigners are puzzled as to how our country can "allow autonomy of 40,000 school districts, and permit each to set tax rates, build buildings, determine curriculum, and hire teachers and administrators (p. v, p. 7)." Since this is so, the answer to this question probably deserves to be treated directly, rather than merely in passing in Cremin's interesting historical-philosophical review of the development of American interest in "Popular Schooling." The questions of foreigners concerning local autonomy in American education are not really limited to the structural-administrative realm. Rather, they imply suspicions as to the centrality of educational concerns in American national life and the qualitative excellence of our educational programs. About these basic matters, unfortunately, this volume says very little.

It is difficult to understand why an integrative talk such as T. R. McConnell's "Diversity in Higher Education" needs to be followed by three separate talks, good though they are, on the liberal arts college, the state university, and the community college. Similarly, it is difficult to understand why a single integrative presentation on professional education would not have been preferable to the separate talks on the training of teachers, scientists, and scholars. Finally, integrative presentations on curricula might have been superior to the partially substantive, partially "educational" presentations of the humanities, the sciences, and the social sciences, each largely in terms of higher education.

The participants represented in this series consist of some of America's best known educational spokesmen: Cremin, Havighurst, Conant, McConnell, Courtney Smith, Logan Wilson, Keppel, Bundy, Bronk, Everett C. Hughes, Cronbach, etc. In terms of name-power, the reader of this booklet can feel amply rewarded. Nevertheless, this reviewer must protest that this is not enough—neither for foreign nor for American audiences. There should have been greater conceptual blueprinting to this entire series. It should have sought to leave listeners (now readers) with a grasp of the functional unity and interrelatedness of American education, with some inkling of the funds expended on education as contrasted with those expended on other facets of our existence, with some evaluation of the qualitative level of American education, and with some working grasp of the elementary and secondary curricula and the ages at which the average child learns what and masters what. In most of these cases, a comparative approach with respect to various well known European educational systems would have been extremely revealing and meaningful.

Somehow, this series skirts all of these issues and leaves one with the impression that it advertises various makes and brands in the tradition of a society oriented toward consumer goods and a buyer's market, rather than serves the most serious adult educational mission that it might have set for itself. This is not to say that any of the chapters are deficient, uninteresting, or unimportant. Each contributor has turned out a highly polished article. But the whole is much more cotton-candyish, much more ephemeral, much less nourishing intellectually, and much less concerned with the basic educational questions than one legitimately might have hoped for from those whose talents have gone into this undertaking.

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Yablonsky, L. *The Violent Gang*. New York: Macmillan, 1962. Pp. xiii + 264. $4.95.

Since the middle of the 1950s, we have had an accelerating stream of books and articles describing and interpreting delinquent conduct as a group process, culturally patterned, and rooted in the social organization of the larger society and the local community. The upshot of this exuberant production is a state of lively, unsettled, and highly fruitful argument. Yablonsky's volume is a major contribution to that stream and will add new fuel to the controversy.

The author has had extensive experience as a detached worker with street gangs in New York City. His book is richly documented and illustrated with case materials drawn from that experience. There is probably no other book that conveys in so vivid and salty a way so much information about so many aspects of the structure and activities of the fighting gang. It would be well to reserve judgment on the applicability of Yablonsky's description to gangs other than those that he himself knows so intimately. In the present state of our knowledge, however, we need intensive studies of specific gangs at least as much as we do broad-scale, comparative studies limited to superficial, easily obtainable data.

To my thinking, the most original and convincing contribution here is the conception of the violent gang as a "near-group." By this Yablonsky means that the gang is not a close-knit, corporate entity with clearly defined membership and structure, but a set of hard-core members surrounded by various affiliates of increasingly tenuous degrees of identification and involvement and with a labile and uncertain leadership. More important, perhaps, the gang, its history, its membership, its territory, its enemies, and its allies, as these exist in the minds of the core members, are largely shifting and unstable fantasies—fantasies that are gladly echoed by the mass media and widely shared by a gullible public. If this is what the violent gang is, then this is what a theory of the violent gang must explain.

Yablonsky has such a theory, a complex and eclectic one, but its essential elements are these: Certain social conditions produce emotionally disturbed "sociopathic" individuals, with defective consciences, weak egos, few skills (social or otherwise), and intense needs for power and aggression. Such individuals readily fuse and come to constitute the core of near-groups and collectively generate and maintain a subculture whose chief function is to legitimize the expression, through overt violence, of pathological needs for aggression—needs which, if denied such expression, find their outlets in some other symptomatology. Fringe members, on the other hand, are less disturbed and are therefore less attached to the violent gang and less taken in by its paranoid fantasies.

Yablonsky is no doubt right that the members of violent gangs are not just kids who are "just like everybody else" except that, denied other and more wholesome opportunities for fun and self-expression, they make use of violence to attain these ends. It is another thing to say that these boys are profoundly disturbed "sociopaths" (a word approximately equivalent to the older term "psychopath"). This idea, although widespread among students of delinquency, is not easy to demonstrate and does not agree with the impressions of many others who also have some firsthand acquaintance with this sort of gang.

Finally, Yablonsky has a number of extremely provocative suggestions about how to deal with these gangs. Most challenging and controversial is his belief that detached workers should not accept the gang as a legitimate institution and seek only to "redirect" its activities into more socially acceptable channels, but should make it their objective ultimately to dismember the gang, stripping it of its members "as one would strip an artichoke." Although this suggestion will no doubt be fiercely disputed, it rests upon arguments that are based on the near-group conception of the fighting gang and that cannot lightly be dismissed. Yablonsky also believes that the core members badly need therapy, but the therapeutic model he suggests is not of the classical office sort, but one fashioned after Synanon, the exciting experiment in self-rehabilitation by a group of narcotics addicts in Los Angeles.

This book contains a wealth of other stimulating ideas that cannot be discussed here. Its enduring value as a contribution to the literature on juvenile delinquency is assured.

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Gruber, Ruth (Ed.). *Science and the New Nations.* New York: Basic Books, 1961. Pp. xv + 314. $6.50.

All professional people in good standing now speak of *developing*, *emerging*, or *new* nations, rather than *backward* or *underdeveloped* nations. To the change in designation there has also been added a phenomenal rise of interest in the cultural, educational, economic, and other problems of the rising peoples of the world. No longer is it professionally safe to confine one's concerns to Europe and North America and to remain in ignorance or even semi-knowledge about Asia, Africa, and Latin America.

Miss Gruber's volume offers numerous insights into the variegated problems of science, technology, health, and education as faced by the new nations. It is a product of the International Conference on Science in the Advancement of New States, held in August, 1960, at the Weizmann Institute of Science, Rehovoth, Israel. A total of 120 participants from 40 countries of six continents took part in the deliberations. In the words of the editor, "There were no charts or exhibitions at the Conference. Israel was the chart and the exhibition" (p. vi). Delegates visited the hospitals, *kibbutzim* and *moshavim* (agricultural cooperatives), and the scientific laboratories of this tiny new-old country.

No matter what the specific concerns of the delegates' discussions were, "the central crux . . . is the educational problem" (p. 289), said Abba Eban, Israel's Minister of Education and Culture and president of the Weizmann Institute of Science. "The scientific nations should assist the nonscientific nations to become scientific nations, and this as quickly and as urgently as possible" (p. 291). These sentiments seem to sum up the sense of the participants. All through this well-edited and readable work this theme comes up again and again. The new nations want the sciences, and the older nations are willing to help them get them.

Science and technology are much in demand as media for self-advancement, independence, and equality with the countries of Europe and North America. They want speed, and lots of it. According to J. G. Kiano, Minister of Commerce and Industry in Kenya, "Africa can no longer tolerate gradual development in any field of activity. To those who criticize us Africans for rejecting gradualism by saying *haraka haraka laima baraka* (haste cannot be blessed), we reply, 'It is the early bird that catches the worm'" (p. 52). There are, of course, countering proverbs such as *festina lente*, but it appears difficult to put a damper on such enthusiasm.

Together with the factor of speed is that of faith in education, especially of the scientific and technical type. This is exemplified by the remarks of Eyo Ita, director of the West African People's Institute, Eastern Nigeria. "Education itself will serve as an antidote to the poison of imperialism. Scientific education will liberate us from the dark forces of buried hatred and repressed fears and the unhappy memories of the tragic years of oppressive alien rule" (p. 35). Again, "Education is the great gate through which science and technology will come to stimulate and uplift us, and the training of youth will be the most important creative frontier for the new Nigeria" (p. 38). Science has already considerably helped such new nations as Israel, observed Manuel Lim, Secretary of Commerce of the Philippines, and "with the help of science we are learning to cope with our needs and develop our resources, and the enrollment in our universities shows the faith that our people are placing in education" (p. 65).

Some of the writers—Principal W. Arthur Lewis of University College, Jamaica, for instance—take the trouble of stressing problems and difficulties, such as mere literacy and the secondary school bottleneck. There is also an occasional awareness of the basic need for more than science. Mr. Ita warns against the neglect of "cultural disciplines such as religion, music, drama, art, and literature, which will enrich and spiritualize our lives as a people and as a nation" (p. 38). This point is underscored by Aharon Katzir of the Weizmann Institute: "Without a humanistic basis, the worker loses the harmonious view of scientific achievement and becomes, to quote the philosopher José Ortega y Gasset, 'a well-trained ignoramus'" (p. 230). Nor should the new nations neglect the need for the social sciences, including the objective study of their history and of world history. This essential ingredient of a modern education, with its significance for international understanding and cooperation—the basic theme of the conference—receives virtually no attention in the book.

The conference was one of scientists, technologists, administrators, statesmen, and a few humanists and social scientists. There were apparently no specialists in the areas of political science, psychology, anthropology, ethnology, history, international relations, and education. As a matter of fact, a close examination of the roster of delegates will reveal no identifiable experts in philosophy, literature, linguistics, religion, and other humanistic fields. (Mr. Eban, of course, is a scholar in Semitic languages, but he did not appear in that capacity.) One may, therefore, question if it is possible to discuss "science and the new nations" without adequate attention to the cultural and intellectual world of which science and the new governments form a part.

This book should be widely read by educators, notwithstanding its one-sidedness. The specialist in comparative education may be familiar with the educational problems of the emergent countries and, in any case, can get more data in other accessible publications. All others in the field of education will find in the book absorbing reading matter.

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Cram, D. *Explaining "Teaching Machines" and Programming*. San Francisco: Fearon, 1961. Pp. vii + 86. $2.00.

This short book illustrates some styles of programing subject material. It has the virtue of employing different styles in describing the methods themselves, and it demonstrates the format of two programing procedures. Part 1, written in scrambled textbook form, defines the terms "teaching machine" and "self-instructional program." The definitional message is that all teaching machines have three characteristics in common: frequent responding, immediate feedback about response appropriateness, and adjustment to individual rate of progress. Little else is considered. Part 2 describes linear programing and is in linear programed form, whereas Part 3 describes branching programing in branched form. Part 4, in branched form, compares linear and branching styles. Part 5 attempts to indicate other possible programing styles, and Part 6 attempts to sum things up.

My over-all reaction to this book is an uncomfortable one. I have the feeling that the author, in his attempt to make a popular presentation of the topic, describes a skeleton without any brain, heart, or muscles. From it, one may learn the skeletal structure but not begin to appreciate the vitality, the fundamental mechanisms, and the aspirations. Unhappily omitted is the fact that programed learning is essentially an explicit attempt to apply the findings of the scientific study of behavior to instructional practice.

Part 1, for example, in defining "teaching machine," gives the aspects that one sees on looking at a teaching machine in operation but does little to convey the process of constant interaction between the programer and the learner on the basis of which a program is revised. Part 2 perpetuates, in a way, an outmoded terminology of learning. It describes Pressey's use of the "law of frequency" and the "law of recency" but neglects to mention his use of the "law of effect," which is the major continuity that runs between Pressey and Skinner. Again, this part emphasizes only the apparent structure by emphasizing the "direct disagreement" between Skinner and Pressey with respect to constructed response and multiple-choice responding. From the point of view of shaping behavior, neither kind of response seems more "correct" than the other. It depends upon the kind of behavior one wishes to teach. Furthermore, recent experimentation indicates that there may be a high degree of transfer between the two, one facilitating the acquisition of the other and permitting their joint use in learning.

On the other hand, Cram does attempt to give some general principles at the beginning and to show how the two linear and branching styles, meet proper criteria. His bias is toward branching for reasons which are not quite based on learning theory or empirical evidence, but on the opinion that branching is more flexible and less demanding of the program constructor. He points out, however, that the choice of style depends upon the objective of the program, and he gives illustrative topics which he would program in various ways because of their nature. His notion of the use of programing to teach learner and teacher opinion is of special interest.

Although Cram asserts that, "There seems to be no evidence that a difference in intelligence is reflected in the amount learned from a program," studies are showing a relationship between the amount learned and intelligence. In the long run, however, the expectation of programers is that as programs become increasingly effective, this relationship will decrease. There is even some warrant for the belief that the bebehaviors that make up intelligence can to some extent be themselves programed.

All in all, the major attitude of the author is presented in his underlined statement that, "*For once in history, the burden of proof is on the teacher (the programer) and not on the student.*" His presentation of programing styles, using the form of the style being discussed, is commendable. With respect to his handling of the subject matter itself, I felt as if I were reading a book on test construction which described some of the characteristics and differences between test items without elaborating some of the fundamental notions of reliability and validity.

ROBERT GLASER
University of Pittsburgh and
American Institute for Research

Wilcox, F. O., & Haviland, H. F., Jr. (Eds.). *The United States and the United Nations.* Baltimore, Md.: Johns Hopkins Press, 1961. Pp. x + 188. $4.50.

Six of the papers included in this volume were prepared for a recent conference under the sponsorship of The Johns Hopkins School of Advanced International Studies and the Brookings Institution. The final paper was prepared after the conference was concluded by one of the editors, Dean Francis O. Wilcox.

In a certain respect, the conference was not unlike scores of other academic conferences, and the resulting collection of papers is not markedly different from other similar publishing ventures. But in another respect, this conference was different, perhaps unique, in that it was organized, in part at least, by a former officer of the government to provide background and orientation for his successor. Dean Wilcox, Assistant Secretary of State for International Organization Affairs in the Eisenhower administration, found his successor, Harlan Cleveland, favorably disposed to meet with a group of knowledgeable persons to discuss present and future US policy in relation to the United Nations. Besides the seven men whose papers appear in *The United States and the United Nations*, about 40 others participated in the discussions.

The book provides valuable background, particularly for the layman and the beginning student of international affairs. It does not offer much that is new and refreshing to the expert in the field. Most of the problems discussed and conclusions reached will have a familiar ring to those who have read the books, articles, and serious editorial comments on the UN. But this group is small, and the book was obviously not intended for them.

The content of the volume can best be summarized by examining briefly each of the seven papers in turn. The first by Joseph E. Johnson, President of the Carnegie Endowment for International Peace, addresses itself to the question of how the United Nations can help build new states. Obviously, no international organization can create a new state; at best, it can foster a climate favorable to its creation. And certainly the United Nations cannot dictate a form of government however much its members may disapprove of the pattern that develops. Perhaps the most that can be done by the United Nations is to offer a means of accommodation not only between new and old states, but also among those that have recently become members of the world community.

In the second paper, Paul G. Hoffman, Managing Director of the United Nations Special Fund, addresses himself to "The Six Imperatives of Economic and Social Progress." Hoffman is cautiously optimistic in outlining steps that can be taken in capital formulation, technical assistance, expansion of markets, and related economic and social areas.

Lincoln P. Bloomfield's (Director of the United Nations Project, MIT Center for International Studies) paper on "The New Diplomacy in the United Nations" can best be summarized in his own words: "We have conditioned ourselves to winning (in the UN) on every point, and such a situation, if it ever really existed, has now vanished. We can relax on purely symbolic matters . . . and focus our energies . . . where our security interests *are* deeply involved. We can give the new nations more rather than less responsibility. . . . We can oppose the Soviets on their corrupting reforms and work gladly with them on matters of common interest" (p. 74).

Most of the material covered in the fourth paper, "Shifting Institutional Pattern of the United Nations," by Ernest A. Gross (formerly deputy United States Representative to the United Nations) will be familiar to the careful reader of a good metropolitan newspaper. The declining role of the Security Council, increasing power of the General Assembly, the position of the Secretariat under Hammarskjold, and the diplomatic possibilities of increasing and expanding permanent delegations are considered in turn.

The most illuminating paper for the serious student of United Nations affairs is the one on "The Containment and Resolution of Disputes" by Inis L. Claude, Jr. (professor of political science, University of Michigan). Professor Claude has no more respect for the naive 100 per cent supporter of the UN than he has for its most vocal detractor. He is content to say that the United Nations can help resolve and contain disputes if it is properly used. "All too often the United Nations is treated as a political battlefield where victories are to be won, rather than a conference table where accommodations are to be reached. It is used as an instrument of denunciation, not conciliation. . . . A parliamentary triumph in the United Nations is no substitute for diplomatic success, and may in fact impede diplomatic success" (p. 110).

The last two papers in the collection are written by the former (Francis O. Wilcox) and the present (Harlan Cleveland) Assistant Secretary of State for International Organization Affairs. Both display the marks of the operator, not the theorist. Both emphasize clearly enunciated questions of policy and administration. Cleveland considers the capacity of the UN to act, to befriend, and to create. Wilcox, only lately retired from active executive responsibility after years of successful experience, presents in a concise manner some of the problems facing the UN, particularly those caused by Russian intransigence. His suggestions concerning procedural and organizational matters are made from a background of operating experience and consequently have an air of realism and practicality.

James A. Storing
Colgate University

Fromm, E. *May Man Prevail?* New York: Doubleday, 1961. Pp. xl + 252. $4.50.

This is a serious book—a book to be discussed, debated, refuted, accepted, damned, or praised. Neutrality is unlikely, for the topic is the physical and psychological survival of man in a world threatened by thermonuclear destruction, and the author is continually challenging and controversial. If you believe that the thermonuclear destruction of the world is a remote possibility, that our leaders are rational men acting upon carefully formulated and logical premises, that the Soviet Union is intent upon world domination, that Western Germany has been transformed into a democracy, or we in the United States are striving to preserve freedom around the globe, be prepared to be severely challenged by Dr. Fromm.

Dr. Fromm asserts that the precarious position of "security by deterrent" maintained by the United States and the Soviet Union can lead only to mutual physical destruction or, at the very least, destruction of the very freedom we are attempting to preserve. In tracing the historical origins of the present crisis, he arrives at some rather startling conclusions: that the Soviet Union is a conservative, not a revolutionary, state that is intent upon maintaining the status quo rather than achieving world domination; and that the recent democratic socialist (neutral bloc) developments of underdeveloped countries should be welcomed by the United States rather than opposed. He also maintains that the Soviet Union and the United States are similar societies in many respects. They are both "have" as opposed to "have not" nations, committed to maintaining what they have. He views both nations as "highly developed centralized mangerial societies," characterized by increasing degrees of human alienation. He warns us that, "The Soviet system is not the opposite of the capitalist system, but rather the image into which capitalism will develop unless we return to the principles of the Western tradition of humanism and individualism" (p. 81).

In an attempt to explain the continuation of the cold war despite the mutual benefits an amicable truce would bring, Fromm draws upon his psychoanalytic discipline and postulates that pathological thinking and a confusion about the uses of ideology contribute to its continuation. He describes the nature of the paranoid, projective, and fanatical thinking which has determined foreign policy. The symptoms he describes are recognizable, but his therapeutic treatment seems questionable. He believes that this pathological thinking must be identified and confronted with reality in the form of truth based upon a rational analysis of recent historical events. Thus, the major portion of his book is just this: a concise, scholarly review of the major problems contributing to our current stalemate, with a reanalysis of these events from a humanist-socialist point of view.

I fear, however, that Fromm, the psychoanalyst, might wonder about the naivete of Fromm, the political analyst, who hopes to cure paranoid thinking by a confrontation of reality. Indeed, Dr. Fromm exhibits some warranted pessimism when he states, "The pursuit of the policy suggested here requires such drastic changes in the American attitude that one cannot avoid having serious doubts about whether such a policy is possible; in fact, its acceptance would seem to be impossible unless there is a growing conviction that it constitutes the only alternative to war" (p. 249). Perhaps this last sentence best summarizes a major contribution of this volume. The conviction that political awareness and political action are demanded if we are not, either by accident or by design, to drift into a final and horrible thermonuclear war.

This book is not without serious weaknesses. One may argue about the validity or meaningfulness of describing entire societies by intrapsychic concepts. The considerable neglect of the economic importance of the armament race to our society is a serious omission. In addition, one may also maintain that the book is largely polemical, severely biased, and short on methods for implementing the suggestions made. Despite these critical comments, however, this little volume is worth reading. It is an important and scholarly book which deals with the basic issue of our survival; and though one may not agree with the author's political inclinations or choice of analysis, one must agree with his view that before committing ourselves to a finite progression of deterrent weapons and counter-deterrent weapons which may easily end in a world explosion, one must explore every possibility that may permit man to prevail.

MARVIN H. HUNTER
Brooklyn VA Hospital

Levy, B. H. *Corporation Lawyer—Saint or Sinner?* Philadelphia: Chilton, 1961. Pp. xi + 175. $4.

The main point of this book appears to be that the rise of modern giant corporations has made our society complex, with these corporations playing a crucial role which affects the financial and social well-being of all individuals.

The interrelationship between modern corporations and the welfare of the individual necessarily brings big business into conflict with government. Giant business tries to prevent government from interfering with its business activities; government tries to prevent big business from interfering with the individual life, liberty, and pursuit of happiness which mark our democratic way of life.

According to Mr. Levy, the new role of the lawyer in modern society is to strike a balance between these two fundamental interests. On the one hand, the lawyer for government uses his ingenuity and professional resources to insure protection of the individual without unnecessarily curtailing the business activities of giant corporations. On the other hand, the lawyer for industry uses his ingenuity and professional resources for the purpose of obtaining the widest latitude possible for the corporations without incurring governmental interference and regulation.

The recently threatened bus strike in New York City exemplifies the interrelationship between the two divergent interests. The matter was ultimately guided down the road to settlement when the threat was made by the government that if the bus company did not take effective steps to resolve the dispute, it would lose franchises. As Mr. Levy points out, disputes between government and big business are frequently resolved in this fashion. Instead of demonstrating this by day-to-day examples of the dramatic incidents involved in these resolutions, Mr. Levy has merely stated the general conclusion. As a result, the reader is not given any real idea of the role which the lawyer actually plays.

Much of the book is devoted to several giant New York City law firms whose organization is similar to that of the giant corporations which they represent, and almost as complex. These firms comprise a hierarchy of lawyers, most of whom are specialists in given branches of the law, and many of whom are specialists in specific portions of given branches of the law. Mr. Levy argues that these big firms are a necessary product of our complex society. An analysis of the facts presented, however, leads to the conclusion that they developed because, as in the case of the giant businesses which they represent, some enterprising man or men organized them with the express purpose of creating—a giant law firm!

By implying that the lawyer has a new role in modern society and that this role is typified by the giant law firm, the book misleads the layman. It has always been the function of the lawyer to seek the resolution of any given problem by first resorting to an analysis of applicable social, economic, and political considerations. The current role of the lawyer is no different. The considerations are more complex because time and changes in political philosophy have resulted in increased numbers of statutes, decisions, and regulations. This does not, however, change the basic fact that the lawyer's work is fundamentally to seek out the applicable social, economic, and political considerations, and to predict what result should reasonably obtain by an application of these considerations to a given problem.

The ability to do this does not require either a new type of lawyer or a lawyer connected with a giant firm. It requires a lawyer who knows how to analyze problems, who knows how to perform research and find existing laws, who knows how to apply existing laws and principles to the situation with which he is confronted, and who has sufficient perception and insight to be able to reach the conclusion dictated by a sound application of existing laws and principles to pertinent social, economic, and political considerations.

Mr. Levy's book excludes the drama which makes the law and the work of the lawyer fascinating reading to the layman. His technique is to state conclusions without portraying the exciting human conflicts which resulted in so-called corporate law. As a result, the reader learns little, sad to say, about the role of the lawyer in modern society.

Norman Annenberg
New York, N. Y.

Flanagan, J. C., Dailey, J. T., Shaycoft, M. F., Gorham, W. A., Orr, D. B., & Goldberg, I. *The Talents of American Youth.* Vol. I. *Design for a Study of American Youth.* Boston: Houghton Mifflin, 1962. Pp. vii + 240. Paper, $1.95; cloth, $4.00.

This semi-popular, semi-technical report of the design of a huge nation-wide testing project conducted in the spring of 1960 poses serious problems for any reviewer. Even after mimeographing a 1200-word review and discussing it for ninety minutes with Dr. Flanagan, I am still somewhat at a loss as to how to proceed. He insists that the volume is addressed primarily to intelligent parents and teachers, and yet there are many aspects of the proposed analyses that they cannot be expected to understand. On the other hand, measurement specialists and educational researchers do not yet have a technical enough presentation of PROJECT TALENT to evaluate its promise fully. Mimeographed copies of a 1960 report to the Cooperative Research Branch of the US Office of Education may be found in certain libraries, but even these do not specify the over-all experimental design of the proposed studies sufficiently to indicate how a number of the questions posed by the investigators can be answered by means of data available from the 1960 testing.

One may call this project a mixture of splendid psychometrics and ambitious correlational analysis. To test almost half a million students in Grades 9 through 12 in 1,353 schools in 49 states with nearly 2,000 questions for two days is no small achievement. PROJECT TALENT required and got the most careful planning and development probably ever given a measurement undertaking. Analysis of the mass of data—already begun but not reported in this volume—will extend over the next score of years. From the 395-item Information Test, with its 15 subscores, to the Student Activities Inventory and the Interest Inventory, supplemented by questionnaires about school characteristics and school guidance programs, will come a census of aptitudes, abilities, and school aspects that should stimulate thinking and experimentation.

I admire the testing operation itself. The American Institute for Research and the University of Pittsburgh have good cause to be proud of it, despite a few inevitable flaws in design and execution. It is the promised attempt to tease out "causation" from essentially correlational data that gives me pause. As Campbell and I try to point out (in our chapter in Gage's *Handbook of Research on Teaching*), that is not necessarily an impossible undertaking, but it is vastly more difficult and uncertain than when one has manipulated variables systematically in a well controlled experiment. Thus far the PROJECT TALENT staff simply has not given us enough information about their intended analytical procedures so that we can determine how they will approach the ten questions on pages 40-41 that would ordinarily be answered by manipulative experimentation much more definitively than by attempting to probe the confounded, non-orthogonal structure of nature as revealed in existent schools.

Viewed narrowly, all ten questions deal only with association, not causation, but straightway they have causal implications that might be misleading. Take No. 3, for example: "Are small classes more effective than large classes?" One can compute quite readily the correlation of class size, as it occurs "naturally" in PROJECT TALENT SCHOOLS, with various test scores; but it is a far more difficult task to prove that class size helps "cause" the differences among means of classes, and that therefore classes "should" be of a certain size or sizes in order to maximize desired outcomes of instruction. Because of the semi-popular level of this volume, we are not told just how causation is to be inferred from associational data. It is implied that much statistical partialing out of confounded variables will be attempted, but how will the analyzers stop short of throwing away the baby with the dirty bath water? The partialed-out variables are not antecedent to the independent variable (class size), as they typically are in the analysis of covariance as applied to the results of controlled experiments, but instead they are concurrent with it or even subsequent to it. How much should one partial out in order to remove confounding influences of per-pupil expenditures, educational level of parents, verbal ability of students, and the like, without partialing out the independent variable itself? We shall look to the PROJECT TALENT staff for penetrating insight into these perplexing issues.

It is well known that correlation is not necessarily indicative of causation. This is the dilemma which all analyzers of concomitant variation face. They must decide whether a causative relationship exists and, *if so*, in which direction it goes. A brief review is not the right place, however, to examine complex aspects of correlational analysis, except to state that they will be highly relevant to attempts at answering the ten questions on pages 40-41. Partial correlation is not, in general, logically equivalent to the analysis of covariance of results from a controlled experiment, but by conducting their analyses within the four sampling strata used (type of school, geographical unit, school size, and school holding power) and by considering other factors judiciously, the PROJECT TALENT staff may be able to rule out plausible alternative hypotheses sufficiently to make their findings—*e.g.*, about the effect of class size on achievement—supplement previous studies helpfully.

Already we are indebted to PROJECT TALENT for beautiful psychometrics. I look forward hopefully to ingenious analyses of the data. At least, they should generate hypotheses for controlled experimentation.

JULIAN C. STANLEY
University of Wisconsin

Book Notes

Poverty is no stranger to the western world, but we have come so close to a solution to the economic problem of production, including the production of an abundant food supply, that it is a curious experience for an American to be confronted with documentation for this statement: "Two out of every three people alive today eke out a marginal existence struggling against the four malignant curses of our times: hunger, poverty, ignorance, and chronic ill health." It is still more jarring to be reminded that one is a member of a privileged minority simply by virtue of the fact that he can read the proof that two billion people sleep nightly with hunger gnawing at their bellies or disease ravaging their tissues.

This state of affairs is what Paul G. Hoffman's *World Without Want* (New York: Harper & Row, 1962. Pp. 144. $3.50) is all about. Managing director of the United Nations Special Fund, Mr. Hoffman is quite aware that people who are distressed and trampled by the "four horsemen of our time" are ripe for violence and revolution. His concern for them, however, is based far more directly in human compassion, a sense of justice, and the sheer fact that certain forms of suffering are no longer necessary.

It is unnecessary because technology has developed to a point where it is quite possible to solve virtually all of the technical difficulties associated with economic underdevelopment in Asia, Africa, and Latin America, and because the UN has acquired sufficient experience to know how to guide programs of investment and technical aid in effective ways. Miracles must not be expected, of course; the easing of the human lot will not be even or without its setbacks, frustrations, or moments of disorder. The means for such an accomplishment in the foreseeable future, however, are now available.

Whether they will be well and vigorously used depends essentially on the attitudes that we bring to the task. There is, for example, the recognition by the more favored nations that, with some exceptions and some momentary lapses, most of the leaders in the have-not countries are genuinely dedicated to the welfare of their people. To wage war on economic underdevelopment is to wage war on tyranny and privilege, too; for the intensity of effort required can be evoked and maintained only when people know that they will share fairly in the fruits of their own labor. Understanding this fact and making that understanding a part of the policies guiding our foreign aid plans are essential.

Second, the industrially advanced nations must increase their enlightened self-interest by realizing that "the best and least expensive long-run defense of their . . . interests lies in the creation of a world in which poverty, deprivation, illiteracy, and disease are not constant provocations to violent and destructive upheaval." The member nations of the UN in 1962 together budgeted $120 *billion* for defense expenditures, whereas only $8 billion was available for world development. Military demands may understandably command first priority in the fiscal planning of the globe's great nations, but in their own interest, they must soon recognize that development must come next as an integral part of their diplomacy, their international policy, and their hopes for the future.

Finally, the shrunken state of the planet—which a man can now circumnavigate some sixteen to eighteen times in a single day—means that all of us are inescapably interdependent. Poverty in India or Nicaragua or the Congo is damaging to the people of Paris, San Francisco, and Moscow. While we may be less than brothers in our feeling for each other, the facts of twentieth-century life demand that for our own safety and well being we act as if we were. If we behave long enough in this fashion for no other reason than a concern for our own skins and our own contentment, the feelings of brotherhood may grow with the economic conditions that permit men to live like human beings rather than like underfed and desperate animals.

It is *not*, it must be underscored, that the inhabitants of the emergent nations lack traditions of dignity or their own authentic visions of manhood. Difficulties come when they are forced, as many are now, to make rapid accommodations to Western technology and the different values that technology inevitably brings with it. It is for this reason (plus its startling dramatic power) that *The Broken Spears* (Boston: Beacon, 1962. Pp. xxi + 168. $5.00) can be strongly recommended. Edited by Miguel Leon-Portilla, director of the Inter-American Indian Institute in Mexico, this book is an eye-witness account from the Aztec point of view of the Conquest of Mexico. Some 40 documents in Nahuatl still exist, representing prose and narrative poems written or dictated by Indians who were present at Cortez's invasion. Now available in English, it makes a moving story. The Aztecs were a proud people with a high level of culture. They practiced universal education for their males; their arts of ornamentation and architecture were developed to a degree that overwhelmed the "civilized" Spanish, and they had a profound concern for their own history. If their religion demanded human sacrifice and was founded on superstition, they also were capable of tenderness, enjoyed a well developed concept of justice, and valued the life of the intellect. Having welcomed Cortez as the reincarnation of the god Quetzalcoatl, they were attacked first during a ceremonial dance and defeated by superior weapons. From then until our own century, the tale of Indian deterioration has been an account of a people dispossessed of its own culture and excluded from full participation in that of the conqueror. Only now are we beginning to perceive dimly the ways in which cultures can be amalgamated, preserving the advantages of many ways of life through the prizing of human diversity. These Aztec poems and essays can contribute considerably to our education on this score.

So can *Nomads and Empire Builders* (Philadelphia: Chilton, 1961. Pp. viii + 322. $7.50) by Carleton Beals. Few men know South America more intimately or more lovingly than Beals, and his book is one of the few to deal with the Indian peoples of the entire continent. From it one can gain, probably for the first time, a sense of our continuity with the pre-Hispanic populations of the Americas. Realizing the complexity and the contributions to later history of their arts, their laws, their philosophies, and their customs, we who live in the world's now dominant civilizations can understand more effectively the sources of pride and integrity in the tribal peoples currently coming to full membership among the planet's nations. Experts may quibble with details and perhaps even shout "Popular!" in their characterizations of the entire little volume, but Mr. Beals has done us all a favor in providing us with a perspective that otherwise would be difficult to attain.

Of a very different order is *International Education in Physics* (New York: Technology Press and Wiley, 1960. Pp. xvi + 191. $4.50), edited by Sanborn Brown and Norman Clarke as the Proceedings of the international conference on physics education in Paris in 1960. This book is for the general reader in only one sense, but it is an important one: It demonstrates the way in which men of diverse national loyalties can work together with enthusiasm and effectiveness when bound together by a common intellectual concern. Representing 28 countries, including five from eastern Europe, nearly 100 physicists and teachers of physics exchanged experiences and ideas on the usual topics that men devoted to an academic field talk about when they are together. They discussed examinations, the selection of students, the use of TV and films in the physics classroom, the relationship of physics to general education, the role of professional organizations in the development of their discipline, and similar issues. The transcript of their interchanges shows verve and the kind of seriousness that is the more serious for its being shot through with fun. Even if the content lies outside the grasp of the non-physicist, the book is worth examining as documentation for the point recently made by Senator Fulbright in emphasizing contact among educators as an instrument of foreign policy. It is impossible to believe that these physics teachers came away from Paris with other than an enlarged understanding of their counterparts in other nations and an increased respect and affection for their colleagues from outside their own national frontiers. Their experience is worth our pondering.—JH&EJS

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High School Social Studies Perspectives

High School Social Studies Perspectives constitutes a notable "first," in that it offers an expert and manageable presentation of the newer insights and understandings needed by teachers of social studies. Following the excellent historical survey of social studies objectives and curriculums in the first chapter, the reader will find six chapters, each written by a first-rank specialist, dealing with the major social studies disciplines. The final six chapters of the book, also written by experts, consist of area studies dealing with critically important parts of the world.

Each of the discipline chapters presents an articulate and up-to-date summary of the content, theoretical framework, and recent trends in a given discipline. The "area study" chapters suggest issues and points of view which should be stressed—major topics, and key problems for classroom discussion and out-of-class research—the very things teachers will wish to incorporate into revised units of instruction.

In short this book explains how the present social studies curriculum developed, suggests the objectives toward which the curriculum should now move, and provides expert interpretive analyses to help the teacher translate curriculum theory into concepts and viewpoints to be reflected in day-to-day classroom teaching.

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RECORD

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WAYNE MORSE
United States Senate

Social studies for our time

When the editor asked me to comment upon the importance of the social sciences in the modern day school curriculum, I confess that the adage about the timidity of angels venturing to tread occurred to me. Upon reflection, however, since I am a practicioner of an applied branch of one of the social sciences, government, I accepted.

This article perhaps presents nothing new; but it is important, in my judgment, for teachers to know how their work appears to the general public or to one who, like myself, stands half-way in the teaching profession. As a legislator, I must be an educator if I hope to do my job well, for the job of a legislator is the job of communicating to constituents, to representatives of various interest groups, and to his colleagues, ideas, values, and judgments. For a legislator to function effectively, he must present his views persuasively, and this in turn is possible, only if the views, values, and ideas he holds are rationally based upon knowledge, conviction, and principle.

Of Major Importance

This foreword to the discussion of the role of the social sciences in the school curriculum is given in an attempt to make it clear why I hold, as I do, that these subjects are not only legitimate areas of study, but of major importance as well. As William James pointed out, "We may philosophize soundly or badly, but philosophize we must"; so, as adults and as citizens, we must constantly make social judgments, soundly or badly, in ways that affect every area of our lives. The quality of our response to the social, political, and economic questions put to us is dependent upon the sum of our experience, and today, as perhaps never before in our history, informed judgments on the part of every American citizen are vitally necessary if we are to survive as individuals and as a nation.

It is true that the social sciences have been given explicit recognition in the school curriculum only in the last 90 years, roughly speaking, through the establishment of courses in history, geography, and civics. The social science program, as we know it today in our schools was patterned largely after the recommendations of the 1916 Report of the Commission on the Reorganization of Secondary Education of the NEA. The question today is how, in view of the changing nature of our society and world, this 46-year-old-blueprint ought to be modified to take into account the expansion of knowledge as exemplified by the research findings on the learning process and the many other tremendous additions to the fund of scholarship upon which our school courses are based.

We know that in the field of mathematics, much care and effort has been expended upon revisions of content. Methodological changes in the presentation of the new program content are also being urged. Likewise, in the fields of the natural and life sciences, there has been much revision of both the subject matter and the methods employed in teaching. Recent studies have suggested that these alterations reflect a healthy process of reevaluation which merits serious consideration by those concerned with the curricula of the social sciences.

Undoubtedly, many modifications could be made to take into account the recent contributions of the traditional disciplines, the new area studies, and the interdisciplinary programs now established in many of our graduate schools. Before a too radical revision is made, however, of all our existing patterns of teaching in the social studies, careful thought should be given as to how this can best be done.

Barriers to Change

It is perhaps a sense of legal caution which causes me to remember that there are but a finite number of hours and minutes in a school day which must be apportioned among many subject-matter areas. Weight must also be given to the administrative problem involved in the retraining of teaching personnel to acquaint them with the major changes which are contemplated in the methodology and content of courses.

As a legislator, I know that institutional and community inertia must be overcome if changes are to be made, and that this process takes much time and effort. From the public discussion of education legislation, it is clear that there is a tremendous job of educating the parent which must be undertaken when changes are made in the education of his child.

One of the political symptoms of our time which must be faced frankly is that while many parents place a high value on education, they tend to equate "a good education" with the norms and methods current during their own school years. Some would even wish to return to the school world and curricula of the 1880s, for they look upon that time with a false nostalgia made particularly acute by the fact that they are experiencing it, not directly, but through the rose colored stereoptican glasses of their parents and grandparents. Though their pseudo-vision may be in error, the simplistic values they profess have an impact upon the community and constitute a problem, often a harsh one, to be met by the school administrator and the teaching profession.

Many sociologists have been particularly sensitive to the need for additional research funds and, what is almost as important, to the need for recognition within the academic community of the contribution their discipline can make in bringing together the fragmented research findings of scholars trained in other areas so that social science teacher-training programs for the elementary and secondary schools may be soundly constructed.

As long ago as 1957, my good friend, Dr. Harry Alpert, now at the University of Oregon, brought to my attention the work in the social sciences being carried on by the National Science Foundation. The work of that agency, in this area, deserves continued support and encouragement. I asked for appropriations then for that purpose, and I shall do so again in the sessions of the Congress in which I serve. Such research and the utilization of that research in the teacher-training programs of our colleges and universities can only be helpful.

In this connection, mention also ought to be made of the activities of the United States Office of Education in carrying out its authorities under the Cooperative Research Act. I hope that this activity can be strengthened, because we need to know much more about the learning process itself and how to apply efficiently what we have learned in the past few years about the way in which children actually do learn.

Sources of Fright

It is to me a most frightening and disturbing thing that about 20 per cent of our young men, 18 to 23 years of age, have been rejected for military service because they could not pass a sixth grade test in reading and arithmetic. If one out of five are rejected by the draft boards because they are, in effect, illiterate, it points up, in my judgment, the job which we must do, and soon, in our elementary and secondary schools. A minimal national goal, it seems to me, would be to lower that percentage to between 5 and 8 per cent at the most.

To achieve this goal, we shall have to spend money, but it is money well spent if it succeeds. The public school aid bill of the 87th Congress would have provided a start in getting federal money for this purpose to the school districts where it is needed. That bill died in the House of Representatives, as did the higher education bill in the session of 1962. Here we have a tragic waste because we have lost two irreplaceable years of progress. We have shortchanged our young people educationally and ourselves socially and politically. In 1963, that situation ought to be changed. It can be changed, if at the crossroads of America, in the towns and cities of the country, teachers and parents speak with authority to their elected representatives at all governmental levels and make it unmistakenly clear that it *must* be changed.

There is a real need, it seems to me, to encourage able students in high school to start to plan for careers which require training in the social sciences. The emphasis which we are now placing on science and mathematics is healthy in the long run only if, at the same time, we also place additional emphasis on the social science disciplines and upon the study of English. I fear that unless we recognize this need at the high school level, the serious imbalance which we are encouraging under present types of assistance will tend to become progressively worse. The further implications, with respect to the impact on higher education, of the pressures on programs and policies engendered by existing legislation have caused responsible spokesmen in the university community to raise their voices in warning against a trend the continuation of which, they feel, may very well deflect the university from its proper function.

Hobson's Choice Only

Why then, should we encourage the development and increase the importance of the social science curriculum in our secondary school system? The answer really is that we have no choice but to do so. The development of science and technology on the one hand and the manifold of social, political, and economic events which are the very stuff of history since World War II leaves us no choice.

Science and technology, through their present developments and the visions of the future they yield, hold forth the promise of enormous improvement in man's environment and at the same time the threat of complete extinction. In themselves, science and technology are neutral. The uses which men make of them will determine the future of man. All rational men have rejected the deliberate use of nuclear warfare as an instrument of national policy, but no substitute for war has yet been provided. The peacetime uses of science and technology require more safeguards against air, water, and soil pollution, against dangers to health, than the public has yet been able to obtain through legislation. The human problems raised by science and technology just in the past two decades alone, while vast, are not insoluble, but the present programs in the social studies may not adequately equip our future citizens to deal with them effectively and understandingly.

The United Nations, established with 51 members in 1945, increased its membership to 104 in 1962 with five new nations requesting membership in that year. This community of nations is seeking a peaceful way to help all people of all nations realize larger aspirations for freedom, economic well-being, literacy, good health, and all the other benefits which orderly government and advancing technology have conferred on the more highly developed countries. It seeks the future benefits of science to all people.

These dramatic changes which have characterized the last two decades cannot be adequately understood by our elementary and high school pupils through a basic program which stresses little more than an exposure to United States history and government with the study of geography ending for the majority of pupils at grade 7.

If we are to renovate the social science curriculum, should not the following features of current world movements be carefully considered?

Ideas and the World

First, the international conflict between the free world and the communist bloc raises problems at home as the tensions arising from the international struggle bring demands for the limitation of free discussion and for censorship, demands which violate the fundamental guarantees of the Bill of Rights. It raises questions of violations in practice of principles strongly supported, such as we have witnessed in conflicts arising from racial tensions, in which segregation and restrictions upon suffrage have been condoned and excused. It requires a democracy which can show vitality in grappling zestfully with both domestic and international problems. More study of the functioning of our government at all levels is clearly desirable. Greater motivation among our young people for undertaking a more demanding, active type of citizenship is a goal we should establish.

Second, the actions in the international sphere carried on through the United Nations and its specialized agencies, through regional agreements such as NATO and the OAS, should receive study designed to encourage a continuing interest in those developments. The European Common Market, the communist bloc, and the growth of sentiment toward larger aggregations of power, exemplified in the Arab League and in the proposed political unification of Europe, are other examples of the sort of content which should receive added emphasis in the social studies curriculum.

Third, the evolution of new economies in underdeveloped countries and changing economies in the economically mature nations calls for a more complete understanding of what an economy is and how it functions. Economics has too long been slighted in our schools. The role of manpower, technology, resources, productivity, and all the factors involved in economic growth and stability could receive greater elaboration and treatment in depth. International movements of goods and capital investment which draw national economies into a world economy can be evaluated best by an over-all knowledge of what an economy is and how it works.

Fourth, population changes are a result of scientific and technological advance. Lower death rates are due to improved sanitation and medical care and better nutrition. In underdeveloped countries, these factors may cause a population explosion. Where a mounting population presses on scanty resources, poverty may be tragically increased. The increased mobility of population within countries, particularly in the rapid urbanization of advanced industrial nations, raises new problems. New social classes are created by the manpower requirements of the new technology. The social role of women is changed by the demands for workers. Changes like these alter the power structure of a society, modify or abolish old laws and customs, and create new systems of social control. Demography must become a familiar object of study for American youth.

Finally, the increasing volume of international contacts through travel and the mass media tends to increase the speed of cultural change through cultural interaction. Provincial attitudes tend to be modified with greater knowledge of other peoples, their customs and folkways, their arts and crafts, and their religions.

Knowledge that Counts

The solution to these problems requires a knowledge of sociology, economics, anthropology, psychology, world geography, political science (especially comparative government), world history, and social psychology. School programs must be built out of this knowledge and a sensitivity to its relevance for our major problems. Are our social studies teachers now equipped to help their pupils understand the world of today and the still more fantastic world of tomorrow with their present knowledge and training? If not what should be done?

The major question is not whether emphasis should be given to the social sciences in our schools; it is one of identifying and effectively teaching the modern disciplines most relevant for informed citizenship. We need to make sure that those who teach the social studies are fully equipped in order that they may help our pupils to understand and behave intelligently and humanely in the world of today and the surely even more fantastic world of tomorrow.

In this session of the Congress, I anticipate that through such legislation as the Improvement of Quality Education Bill, we in the Congress will start again to provide enabling legislation, but we must look to the teaching profession itself to provide us with the guidelines, the standards, and the criteria for changes within the social science curricula in order to achieve our common goal of providing to each of the young citizens entrusted to our schools the opportunity to develop to the maximum his native talents and abilities.

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Scholarship and nonsense in the social studies

SOCIAL STUDIES ARE examinations of human relationships and therefore important and certainly not nonsense. In this interpretation there is no real difference in the objectives of the social *studies* and the social *sciences*. Social science, the dream of Auguste Comte to analyze and formalize the knowledge of man about himself, attempted to put all data about non-physical human interaction into neat categories. This effort was a response to the seventeenth-century revolution in natural science that accompanied Isaac Newton's *Principia*. If laws of matter could be hypothecated, then laws of social behavior could also be formulated in the same way. This was *not* nonsense; Comte was probably wrong in believing that he or anyone else could pigeonhole everything, but by attention to man's behavior, scholars can find out much about society, the setting and individuality of man.

Disciplines of Man

We have given up the notion of a generic social science, but not the basic idea of systematic studies of man. Social sciences have proliferated and specialized until now there is a plethora of vital findings and formulations. At the same time, each of these must contribute to and stay in contact with the central social science theme. Charles Beard stated this as "... a body of knowledge and thought pertaining to human affairs as distinguished from sticks, stones, stars, and physical objects."

From a single social science, the multiple social sciences have each become respectable bodies of discrete knowledge. They all, however, have similar goals, that is, to attempt to discover by as scientific means as possible the reasons for and the descriptions of man's activities.

Social sciences, in general, are those disciplines which recognize the simultaneous and mutual action of physical and non-physical stimuli producing social reaction. Alexander Pope's couplet illustrates the specialization, integration, and objectivity desirable, even requisite, to social study:

> Know then thyself, presume not God to
> scan;
> The proper study of mankind is man.

In many cases, social scientists, while pursuing the "proper study of mankind," have lost sight of the necessary concept of man as a whole thing. They have sometimes become so immersed in a particular, peculiar attribute of man that only a single isolated insight can be established. This may add to the total body of knowledge, but when it happens, the chief aim of social science is lost—an integrated understanding of man's over-all behavior. The teaching of such material becomes highly specialized and esoteric and is of little value in mass education. Social scientists must guard against this kind of purblindness by (a) maintaining sight of the purposes of all other social scientists, and (b) making continual overtures toward dissemination of their scholarly findings to the general public through schools and popular writing.

On the other hand, in contrast to the specialized interest of the scholarly social scientist, there are social-studies advocates who want to do nothing *but* teach the integrated, desirable pattern of behavior that *ought* to grow out of social education. This can rarely be more than indoctrination in a method of thinking which is rapidly substituted for a system of values that might otherwise be derived from the human heritage, but this is not the same as a knowledgeable synthesis. Teachers must remember that (a) in a free society, people are presumably capable of choosing among alternatives, and (b) in order to do that, they must know about the alternatives as they have developed through human experience. This becomes the definition of education.

Social Values in School

After World War I, social studies, differentiated from social sciences, arose as a separate school subject, but with the same avowed purpose and content as the social sciences. Two major differences, however, marked social studies from the outset, followed by many minor but far-reaching differences. First, the subject was not taught by social scientists; second, there was a didactic overtone implying that people *ought* to do certain things. These two differences divorced social studies from the objective aims and interests of the social scientists. Social education is implicitly subjective. The name, social studies, came out of a meeting of public school administrators, and from about 1920 it has been the province and property of teachers and other professionals in education, *not* subject-matter specialists.

Attempting to make social studies a discrete teaching field without much reference to its scholarly base has accomplished a degree of integration of the social sciences, the "proper study of mankind." On the other hand, it has diluted the content to an often meaningless waste of effort. This *is* nonsense.

For example, by attempting to teach behavioral attitudes in a history course, we reinforce ethnocentrism by insistence on the superiority of Anglo-Saxon ideals as compared to those associated with the Spanish conquest of Latin America, which is called beastly, cruel, and avaricious. Under the guise of social studies, most elementary and secondary books on Latin America perpetuate this Black Legend simply through the ignorance of their authors. Objective information is available, but apparently not to some social studies experts. This can become vicious nonsense (5).

The true role of the social studies is to reflect and integrate the material of the social sciences at appropriate school levels. This does not mean to invent data, to neglect facts, or to simplify to the point of distortion:

> Most simply stated, the social studies are the school mirror of the scholarly findings of the social sciences. . . . The tradition of Western man and the particular experience of one branch of that tradition, the United States, form the reservoir of instructional material for the social studies. Citizenship can best be exercised on the basis of the most complete knowledge possible of Western man in his setting, past and present. The only limiting

factors are the aptitude of the student and the availability of time" (*6*).

Definitions and Curricula

There needs to be a redefinition of social studies that can be reflected in the school curricula and in the training of teachers. In the first place, "social studies" is not a definable, identifiable body of discrete knowledge. It is, therefore, not a solid core of teacher preparation or instructional material. Social studies, like social science, represents a point of view, an outlook on learning that tempers the mastery of any *one* of the social sciences. With this view, a social studies teacher is a person who has mastery of a subject, such as history, and an appreciation of the unitary quality of truth and the fragmentary character of most knowledge, and a reasonably wide general education. He teaches history, but with regard for other disciplines, other fragments of truth. He does not teach social studies; he has a social studies outlook.

In the past, and for the most part now, social studies in elementary and secondary schools have been inspired by a behavioral objective. The most recent statement of objectives for the social studies is characteristic of the reasons for nearly all of the inclusions: "The ultimate goal of education in the social studies is the development of desirable sociocivic behavior" (*8*). As the author goes on to depict "what is desirable behavior in a free society," he fails to question the over-all ability of our society to establish criteria for instruction in that behavior. We still continue to set up social studies courses aimed at purportedly appropriate skills, values, and knowledge. We assume that there is a "right" method for arriving at a desirable conclusion. We need only to define the process of critical thinking, we insist, in order to think critically about whatever problem presents itself. Thus, it becomes unnecessary, really, to learn very much substantive material. Often excellent techniques and critical approaches are applied to trivial topics in social-studies units without enough depth to warrant criticism. Good methods of teaching are confused with methods of thinking.

Problems, according to John Dewey, arise from internal conflicts of importance. The conflicts must be analyzed, ordered, and considered reflectively. Information must be gained, accompanied by further reflection and the formulation of a hypothetical synthesis of the elements of the dilemma. The tentative solution can then be tested against reality until a pragmatically workable solution is reached.

This process is very useful in both personal adjustment and in international affairs. It should not, however, be confused with the simple process of acquiring information. Most of school work is initially concerned with learning what has already been worked out by someone else. For example, finding out in the seventh grade what Roman people ate in the first century is not problem solving; it is learning facts.

Contradictions in Logic

It would follow logically from a doctrinaire view of problem solving as a universal technique that skill in critical thinking (without a warrantable problem) can be added to the implantation of certain values to produce a desirable body of content for social studies instruction, and therefore desirable social action. If there is truly an identifiable method of critical thinking, it can also be applied—ought to be applied—to a constant reappraisal of all values. In addition, it is quite impossible to gain universal consent to a particular set of values and certainly not to a priority of values. It is only necessary to glance at the current situation in Mississippi school integration to understand the futility of expecting universal values to evolve from the social studies except through indoctrination. Any method of indoctrination is a flagrant disavowal of critical thinking; therefore, there is illogic and tension from the outset.

Often in the study of such controversial topics as communism or fascism, involving values antithetical to our own, we tend to overlook such matters as the national self-interest of other countries or the right to self-determination that on other occasions we have supported vociferously. When the initial assumption is that a certain thing is bad (not desirable to us), the hypothesis persists that it is bad, and the conclusion can be nothing other than a reiteration of the premise.

"But although much is being done in many classrooms to develop the power to think critically, far more can be accomplished when social studies teachers have better answers to questions for which as yet they have only inadequate answers" (*8*). By far the best way for social studies teachers to have better answers is for them to know more. They must know as much as possible about the findings of social scientists, about history, economics, geography, political science, sociology, anthropology, and psychology. The primary responsibility of education and teachers is intellectual competence—not problem-solving technique, not furthering social objectives, not the indoctrination of ideals. These are all worthy activities, and they may very well enter into the instructional process; but they are not the main objects of social studies education, nor can they be named as legitimate components of any curriculum. Sometimes they have been so conceived, and one of the results has been a great many bad answers to questioning students.

Contradictions in Outlook

Pragmatism is a valuable tool of direct action, but it has been used as a guiding principle in curriculum construction for half a century, and in this role pragmatically chosen materials can lead to a sterile, unimaginative citizenry with no appreciation of ideals. In contrast, idealism, or the Platonic view of abstract good, is not as useful in a given situation, although nearly all Americans tend to be idealists in some part of their lives. Americans are peculiarly blended in character between idealism and hard-headed pragmatism. We are honest and greedy at the same time. This may seem to be a denial of logic, but although the process of induction is antipodal to that of deduction, yet both are necessary parts of the best scientific modes of thought. It is humanly necessary to have both ideals and the power of observation in the real world. Thesis, antithesis, and synthesis are the dynamic triad underlying all human interactions. Only out of conflict does the new tend to arise. There is no sense in blind insistence on any set of absolutes. They may exist, but their proof is extremely difficult except through faith. In opposition, there is no sense either in eschewing all ideals in favor of a completely current and relative assignment of value to solutions simply because they seem to work at the moment.

Applying these ideas to the social studies curriculum, it would appear that the heritage of human knowledge ought to be the starting point for the selection of content. Synthesis is what we are looking for constantly, but synthesis can be arrived at only by establishing the other two components, thesis and antithesis. In social studies, the thesis is contained in existing information—history and the other social science findings; the antithesis lies in the apparent denial of absolute values in a current situation. A synthesis must bring these together.

It has been pointed out that the subject matter of the social studies is that derived from and identified with the social sciences. As such, each subject can be named accurately in terms of its disciplined body of knowledge, *e.g.*, history, political science, and all the rest of the social sciences. As curricular inclusions, these subjects ought to be so identified; a course in the history of civilization should be called that, not tenth grade social studies; psychology, by the same token, need not be called personal and social adjustment; American government is political science, not Problems in American Democracy.

Discrete social sciences whose school outlet is within the purview of the social studies are history, geography, political science, economics, sociology, anthropology, and psychology. All of these subjects are taught in schools. If they were accurately named, their recognition and acceptance would be considerably easier. It would also remove much of the misty need for instructors of those subjects to attempt the inculcation of methodology of thought and indoctrination in values. There could be sharper clarification of the entities of both subject matter and teaching method.

From Knowledge to Wisdom

One basic assumption has to be made in order to justify stripping away the mystique of problem-solving methodology. It must be assumed and believed that intellectual development and the acquisition of knowledge can lead to wisdom and a proper choice among alternatives. Basically, there is little else that anyone in a democratic, open society can truly believe. Eschewing restrictive indoctrination, there is no alternative to the hope that if people know enough, they will choose courses of action conducive to their own best interest. The reason societies perpetuate themselves is largely because they know their heritage and want to maintain it. The way in which they understand their culture is through history, the record of themselves. Knowledge of history can be achieved only through the intellectual process of studying it. A similar thing may be said about each of the social sciences, but they are all tied to the basic discipline of history, the record of past achievements and failures.

The fundamental group of social sciences involved in the school curriculum represents basic human needs, including man's mind (psychology), man's ethos (anthropology), man's abode (geography), man's subsistence (economics), man's order (political science), man's associations (sociology), and man's story (history). Each of these can be taught as a distinct subject, yet with attention to the vital findings of all the rest. There is no need to sacrifice the integrity of history or geography merely to enhance an emphasis on problem solution. Much more positive gain will ultimately be made in the realm of problem solving by a diligent approach to the systematic mastery of the subject matter within any or all of the disciplines mentioned. New synthesis can only come out of sound and thorough analysis.

Thomas Jefferson, nearly two hundred years ago, provided the clue to a proper study of man. He advised the youth of Virginia to study all they could of both practical and liberal arts. He was aware when he did this that all persons are different in their capacity and interest. Each person must gain what he can, but the ineptitude of one does not validate dilution of the whole for everyone. The content of history is available to everyone. Some can partake more freely and deeply than others. Mastery of a technique for the solution of a crisis situation in the present or future world cannot substitute for knowledge of the past.

Sometimes social scientists and educators are stampeded into panic about the future, the threat of cosmic disentegration or induced global incineration. They are inclined to scrap any consideration of the past, the findings of history, geography, or philosophy, and turn wholeheartedly to embrace the present. There is great temptation to seek a formula to solve the dilemma, a panacea for social ills in the form of a simple method. Courses purporting to do this will not be called history or psychology, but World Problems, Social Adjustment, or, finally, The World of the Future: Social Studies in the Nuclear Age. Here we have pure antithesis with no chance to synthesize at all.

Sobriety through History

Advanced technology and the rapidity of the rate of accelerated change in the modern world are undoubtedly important. They do not, however, invalidate history. History can be quite sobering, and on occasion, it can contribute to a profound understanding of technological change and impact. For example, in fourteenth-century Europe, there was a great furor over the introduction of artillery into feudal warfare. The Black Prince was accused, along with his German engineer, of sabotaging civilization. It was direly predicted that the use of cannon balls against castles would presage the disintegration of morality in Western Europe. The result was not that; it was simply the failure of castles as the center of the military structure of society. Knights were no longer useful. Another adaptation had to be made by society to the advances of technology. The basic problem is precisely analogous to our own in relation to the control of nuclear power, but the solution will be different and not precisely predictable.

The latest yearbook (7) of the National Council for the Social Studies, devoted to the subject of elementary school social studies, begins with a succinct statement of the need to reëvaluate current programs of instruction. The curriculum, it says, needs to be reëxamined and rebuilt in view of the "rapid growth of man's knowledge in basic disciplines and swiftly moving changes in human affairs. . . . Increasing attention," it continues, "is being given to intellectual outcomes such as critical thinking ability, depth and breadth of understanding, and insight into the ways of thinking and living of other peoples." This is followed by a restatement of 21 objectives of social studies included in a *Report of the State Central Committee on the Social Studies to the California Curriculum Commission*. This report was rejected by the California State Board of Education on the grounds that (a) it stated a far too elaborate structure of aims for one subject in public education, and (b) a direct relationship is lacking between the objectives, given as social outcomes, and the subject matter available for instruction. This framework of goals could be taken as a hoped-for ideal of behavioral excellence that might emerge from a whole educational effort over a period of twelve or more years, but not as an achievable objective for the social studies alone.

It is desirable to keep in mind the possible and positive values of democratic behavior in all classroom work. This is a matter of sensitive use of teaching methodology by an educated and intelligent teacher, but it is applicable to all education. When one speaks of social studies in the elementary school, the chief focus of attention should be on the materials of instruction. The teacher must remember that good citizenship is desirable, and that it may hopefully result from good instruction, but the thing at hand in an instructional situation is the subject that is being taught.

Myth of Effective Living

"As never before," elementary school social studies teachers are admonished, "there is need to develop the understandings, abilities, attitudes, and appreciations that are needed to live effectively in our times." This is merely bad English diction. Living effectively results from a value judgment dependent on the individual and society; it rests entirely on what and how much one wants to "effect"—that is, move something. The phrase "understandings, abilities, attitudes, and appreciations" mixes disparate qualities in the same predicate. More explicitly, understanding is perception, and appreciation of what is understood is an esthetic reflection on what has been perceived and reality-tested. Attitudes can result from either indoctrination or internalization of information; in either case, attitude is not necessarily related to behavior. It is quite possible to approve of racial desegregation verbally and simultaneously behave as a bigot. Ability is innate; it can only be encouraged, not taught. In other words, these qualities are not of the same order of importance, nor are they of the same kind. The plural use of such words is usually jargon, in this case not at all clearly used.

What the elementary school child actually does in social studies, and what his teacher encourages, is to learn something of history, geography, anthropology, economics, and political science. From this information he may gain an appreciation of his heritage. He may be motivated to learn more about these things in later years, and he may develop a critical, thoughtful attitude in relation to life in general. He may even gain knowledge and become wise.

There is certainly nothing wrong with a stated educational objective of learning about other peoples and places. There is, however, a great deal wrong with expecting to achieve a sympathetic (or unsympathetic, as the case may be) sensitivity to another culture by treating it didactically and out of context. Teaching about Africans as underprivileged and downtrodden people in the twentieth century or insisting that any current ideology is a determinant of doom does great violence to the tenets of scholarship and will probably be conducive to prejudice and hate as the social outcomes. On the other hand, elementary school children can learn about the basic geography of the whole world in all time. (The basic physical facts are relatively unchanging.) They can learn the fundamental gains of humanity in the ancient civilizations upon which our own is based, and they can learn about the patriotic traditions of our own country. These are facts. They are the facts upon which our philosophies are built and around which the great liberal Western tradition has grown. Knowledge of the setting, the past, and the people of the world in which we live is the basic prerequisite to informed citizenship and the liberal appreciation of what man has produced in that world. Elementary introduction to the social aspects of our culture differs from more advanced examination only in detail and sophistication, not in the fundamental outlook on knowledge. Education is gradual, but it must be founded in the orderly acquisition of knowledge, the forerunner of wisdom.

Corrupted Learning Theory

Under the heading of social studies in the elementary curriculum, it is most common to find units in the first two or three grades dealing with the home, the school, and the community. "Community Helpers" is a characteristic title. This may include, and often does, a great deal of useful information. On the other hand, it may also include a great deal of nonsense. Learning theory may be invoked to justify teaching only that which is familiar on the ground that there must be a context which the child will understand. If this were universally true, then no one would ever learn anything new. Learning theory is further misused in insisting that only a very small percentage of exceptionally bright people can learn at a rapid rate; all the rest tend to be kept at a dead level of the lowest common denominator. On both scores, learning theory includes other, more dynamic propositions: (a) People *can* learn what is unfamiliar, otherwise there would never be progress, and (b) each person learns at his own rate; there is no meaningful average or optimum rate of learning.

Based on another view of learning theory, people can learn a great deal at an early age. It does not have to be exclusively concrete in nature and strictly within the limited experience of six- or seven-year-olds. Young children can approach a study of the global nature of our world under the title of geography. Average children can learn that the earth is round, that it revolves on its axis and rotates around the sun, that there are oceans and land masses. They can further learn the location of their own places on that earth by means of latitude and longitude and why it is summer one part of the year and winter another. This is knowledge, not methodology, but without such knowledge it seems rather futile to think of anyone at a more mature age settling the world's problems. Elementary school is the place to begin such education under the heading of social studies, but let us call it geography, at least as a subheading.

The same may be said for history. History has in the past often been boring, not because it is historical but because it has been badly taught. History is not basically chronology, nor is it the record of wars, dynasties, or elections. Biographies of outstanding people are available at every level of comprehension. There are elementary lives of Lief Ericson, Christopher Columbus, George Washington, and Theodore Roosevelt, to mention only a few. Elementary social studies can take advantage of the colorful and accurate descriptions of what real people did in the process of discovering and settling the New World as well as the Old World. Again, let us call it history, and not be too concerned that the children have not had direct contact with the concrete facts of history; no one has (*1*)!

What High School Is For

Secondary school is now compulsory for nearly everyone in the age group through eighteen, but the curriculum and purpose of secondary school is still about the same as it ever was. It is to purvey the content of the liberal and practical arts. All students are supposed to emerge with an appropriate share of liberal learning, and if they are not college bound, they should also get an introduction to some means of livelihood. It is mistakenly felt sometimes that high school is only for those capable of achieving the highest competence in college preparatory subjects. It is mistakenly believed by an even greater number that high school must have a curriculum that can be mas-

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tered equally by every student. Since high schools encompass the whole spectrum of the population, it is obviously impossible for all students to do equally well. On the other hand, it is imperative that all of them get as much of liberal learning as they can. This suggests that modern secondary schools need more than one curriculum, not necessarily mutually exclusive, but balanced in a different way than at present and probably taught in different ways.

Basically, all of the courses taught in the secondary schools under the general title of social studies are components of the liberal arts, the disciplines of social science. There is less obfuscation of meaning here than in the elementary curriculum, but in many cases, and especially for the students with less academic talent, courses appear as "social living" or "problems" of various kinds. One course, Senior Problems, crops up with regularity. This may or may not be a rigorous pursuit of social science material. More often than not, it turns out to be a combination of material drawn from political science, economics, sociology, and psychology, without much attempt at rigor. It is often a very loosely organized body of comment on man's current predicament, particularly American man. Currency is a common criterion for the selection of topics for discussion. Noteworthy news of world events ought to receive attention in any social studies class. A teacher would be remiss if he overlooked important current events and failed to stimulate his students to read newspapers and magazines. This is an important part of education. It is not, however, the main purpose of the social studies, nor does it deserve sole treatment as the only content of a course. Now and then, but fortunately with less frequency than in the past, there are courses in Current Events, taking an hour a day of school time. This is a waste of effort, as is the use of social studies time in high school for driver training.

Recent history need not fall under the same stricture, but teaching it is difficult because there is always a temptation to predict. "The trouble with writing 'current history,'" wrote Hans Gatzke (*4*), "is that its subject matter does not stand still." Teaching it incurs the same difficulty. "To present the recent past in all its complexity," Gatzke continues, "events have been left largely to speak for themselves. Trends have been pointed out only where they are clearly discernible, and conclusions have been drawn where they appear truly valid. The temptation of making predictions has been avoided." This view reflects a scholarly, social scientific outlook which can be applied to the handling of current events or recent history.

Secondary school social studies ought to be orderly considerations of the fundamental findings of such disciplines as history of civilization, American government and history, and a series of elective courses in all of the social sciences. Students organized by ability groupings could be guided into whichever of the offerings would be most conducive to their mastery of the maximum in liberal learning, either in preparation for college or for adult citizenship without further education (*3*).

Traditions of Civilization

Among possible secondary school social-studies subjects, the history of civilization is the most controversial. This course usually covers only a year, if that much, and it purports to encompass the developments of the whole world. In other cases, it is merely the history of Western civilization—a bit more palatable, but still large. In some few cases, history is taught in time segments, giving more detail to the various periods from ancient to modern, but usually dwelling on European history. However it is administered, the history of civilization is probably the most important part of secondary school social studies. It is quite likely that it ought to continue to be offered in all of the various forms just mentioned, since everyone is not equally fitted to absorb the same amount. In some places, world geography is given as an alternative. The important thing is that high school students be given the opportunity to learn about their heritage, whether it is European or not.

Geoffrey Bruun, an eminent European historian has put the problem in its essence (*2*):

> The decline of western Europe makes it all the more important to distinguish between European and Western civilization. There is no longer a distinctive European civilization, but there remains a Western civilization, which has come closer to being a universal, a global, civilization, than any other culture in history. Europe, after 'giving herself to the World,' is now being eclipsed by the achievements of her offspring.

A reasonable secondary school curriculum in social studies might include a year of geography taught somewhere between grades seven and twelve, a year of the history of Western civilization, preferably in the tenth grade, and two years of United States history and government, with at least one of the years near the end of high school. In addition to these subjects that probably should be required of everyone, there could easily be a whole series of alternative courses, laid out in more detail, covering the history and culture of the world by period and place. These elective or alternative offerings might include specific courses in economics, sociology, psychology, international affairs, or comparative government. Anthropology as a discrete subject can be taught in high school under favorable circumstances.[1]

Mere curricular arrangement or eclectic course content will not, of course, achieve integration in the social sciences or any other selection of human knowledge. Integration is a process that goes on in the individual mind. It is the internalization of concepts based on information that has been acquired through whatever means of perception are available to that individual. Integration is not something that a teacher can do for anyone else. Both the curriculum and the teacher can lend assistance to the process by giving an orderly presentation of sequential material and by testing its absorption, correcting and suggesting to the student ways of digesting and rearranging his data. Direction and methodological help can be provided by the teacher and the school, but the job of learning and internalizing knowledge and transforming it into behavior belongs to the student.

The School's Role

The greatest function the curriculum can serve in the matter of integrating knowledge is to furnish discrete bodies of knowledge under recognized subject names. History has been analyzed and synthesized by historians as professional craftsmen. The school should present their findings to students as history.

Teachers can perform their most useful function by interpreting the curriculum to students at such a level that the students can master the material, first as information and then as conceptualized, internalized knowledge. To do this well, it is probably necessary for teachers to know at least one social science rather deeply and to be aware of the vital formulations of all the rest of them; in addition, they must be sensitive to the unitary body of human knowledge. In other words, in order to know history at the level of genuine teaching capacity, it is necessary to understand and appreciate the major belletristic literature of the world, to be able to express oneself critically and gracefully in both written and oral language, and to know the fundamental theories of social, political, economic, and geographic organization of people, time, and space—to understand the meaning of culture.

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[1] A former student of mine, Robert Dunlap, has for several years conducted a successful course in cultural anthropology for high school seniors at Sedro Wooley, Washington.

Social studies teachers, in order to be properly trained for their extensive responsibility if a new view of social studies becomes prevalent, will have to spend considerable time in study and be willing to embrace a catholic spectrum of studies. First of all, they should be intelligent, motivated people. Next, they must acquire the broadest possible general education, covering the humanities and arts, natural sciences and mathematics, expression in English and almost assuredly in a foreign language as well, and, of course, depth in the social sciences. Each teacher of social studies should have a major in one social science and a minor in another. Many social studies teachers at present possess masters' degrees in their subjects; in the future, this qualification will be doubly desirable. [2]

Beyond all this, the successful teacher must know and use a suitable methodology of instruction which should probably be based on some combination of college study, student teaching or internship, and interested private reading of a relevant sort. The precise way in which teaching competence is achieved is immaterial. In fact, there is a persistent folk saying that teachers are born and not made. Above all, there must be in each teacher a spark of enthusiasm that serves as the compulsion to induce young people to absorb all they can of the human heritage.

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[2] Senate Bill 57, passed in California and signed into law 24 June, 1961, provides that all teachers must have majors and minors in substantive subjects. In the social studies, a major and minor in related fields is recommended by the state Board of Education.

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Social science and history: Conflict or coexistence?

IT IS A STRANGE EXPERIENCE for the historian to realize that the revolutionary currents of the twentieth century, which he has long known as a professional spectator, have suddenly swirled threateningly toward his own comfortable and once secure nest. Until recently, the explosion of knowledge seemed to him a rather agreeable problem, as problems go. The emphasis upon new geographic areas, new interpretations, and larger classes were minor annoyances, easily overshadowed by the flattering impression that these were merely growing pains to be suffered gladly in the cause of a public which badly needed his services. Today, however, he is beginning to feel like a neutral country whose frontier has been suddenly invaded by an ambitious and youthful neighbor power.

This is an introduction to the state of mind of most historians as they become aware of the current assault upon their past record and present role in education, particularly in the high school social studies area. The symposium sponsored jointly by the American Council of Learned Societies and the National Council for the Social Studies, which appeared in the autumn of 1962 under the title of *The Social Studies and the Social Sciences*, is only the latest in a lengthening series of insistent demands that the behavioral sciences be given a larger place in the sun. As Dr. Bernard Berelson puts the matter there in his introductory remarks, ". . . the demands of modern life require an up-to-date version of the social studies curriculum," and again, "This volume will serve its purpose if it starts a responsible discussion looking toward the first major reform of the social studies curriculum in fifty years."

History's Responsiveness

On the whole, historians have reacted in a sympathetic and receptive fashion to social science complaints, for theirs is notoriously a poorly delimited and all-devouring discipline. Reform and change are much more a constant feature of history and the social studies curriculum than Dr. Berelson would have us believe (*17*). Recent issues of the *American Historical Review* have contained major articles by outstanding leaders in the field urging the profession to reinterpret American or world history in terms of Freudian insights, social mobility, culture concepts or group interaction, and these have already perceptibly affected the thinking of the rank-and-file (*3, 5, 16, 20, 22, 23, 42*). Never have the auspices for profitable cooperation between history and social science been more favorable.

Unfortunately, this promise seems threatened by uncertainty among social scientists themselves as to the precise form which recognition of their new methods and "factual" knowledge should take, especially in the secondary school social studies program. Traditionally, it is history which has served as coordinator of knowledge drawn from the loose coalition of political science, economics, sociology, geography, anthropology, psychology, and history itself which the term "social studies" usually signifies. It is also traditional that political science, economics, and history be heavily favored, while the data of neophyte members of the clan are notoriously slighted. This latter trend is already passing away, and remarkably quickly. But if social scientists really intend to demolish history as coordinator of the social studies, to replace Clio with an emancipated, streamlined, twentieth-century female for whom the Greeks had no name, then it is hardly reasonable to expect that historians will continue their cooperative trend. Will it be cold war or peaceful, fruitful coexistence in the years ahead?

In view of the fact that I am an historian—and wish to remain active in that capacity!—the remarks that follow will reflect a definite commitment. But commitment is not necessarily synonymous with bias, which the guild has always detested as a cardinal sin. Naturally enough, historical method will play its part in treating the problem. To do otherwise would be rather damning, under the circumstances.

Although it would have surprised him to hear such a thing, Al Smith often reacted like an historian. To look at the past record of social science-history relationships is what I prefer to think that the Sage of the East Side would have done, were he in my position. For there is such a record, and it bears examination.

What's on the Record

During the end of the nineteenth century, when both history and social science departments were born, the first real speculation about mutual relationships took place. In the initial issue of the *American Journal of Sociology*, Professor George Fellows of Chicago attributed the rapid rise of both areas to Darwinian science. "These (evolutionary) methods in biology have had a strong influence on all branches of study, and without doubt a new life has been given to historic study by looking upon events as the product of forces, and as the result of development of earlier causes" (*10*). History, which had been only "the chronology of important events and the biography of distinguished persons," required the aid of sociology and anthropology to give it pattern and meaning (*15*). The early Deweyite sociologists asked only, however, that existing subjects utilize sociological facts and approaches, not that their fields be admitted directly to the secondary school curriculum. In fact, all three behavioral sciences at this time took the position that theirs were advanced, college-level subjects which should rely upon simpler disciplines like history, geography, and literature to introduce them to oncoming youth.[1] At this time supporters of economics were most aggressive and most successful in their demands to reconstruct history and provide it with a causal theme (*40*).

For a time it seemed that the social

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[1] See especially the papers by Albion Small (*32*) and George Vincent (*34, 35*). An opposite and less usual view was expressed by Frank Russell (*28*).

scientists might get results. The "New History" of James Harvey Robinson was an enthusiastic and total response to what the social scientists were then asking; it reflected a "full awareness of all that the behavioral sciences of biology, psychology, and . . . sociology, were doing," to quote the words of Crane Brinton in the *Dictionary of American Biography*. Shaped in Robinson's seminar were such historians and friends-to-be of social science as Charles Beard, Carl Becker, Arthur M. Schlesinger, Carlton J. H. Hayes, Preserved Smith, David Muzzey, and many another. Nevertheless, the historical profession as a whole was drawn back to political and constitutional themes by the concern over national unity which arose between 1907 and 1920 from controversies over immigrant assimilation and our role in World War I. Perhaps beneficial to the growth of history teaching, this surge of patriotic feeling was decidedly harmful to the influence of the social sciences.

In fact, there was a prestige setback which virtually forced the social sciences into a fresh start after 1920. The founding of the Social Science Research Council and the launching of the ambitious *Encyclopedia of the Social Sciences* during the 'twenties marked the beginning of a radically different era in the evolvement of social science. The term "social science," formally restricted rather narrowly to sociology and anthropology, was now broadened to include an extraordinary range of subjects, including statistics, law, education, geography, and history. Social psychology split off from the parent discipline, psychology. In effect, a "popular front" of all disciplines remotely concerned with society was substituted for the social or behavioral core. The result was a new tone of unqualified confidence, on all sides, that the predestined greatness of social science lay close at hand. It was not yet, for the knowledge breakthrough was incomplete; but in Wesley Mitchell's words, "Put up with our fumbling, our queer jargon, our impractical notions, our differences of opinion, and some day you will find us most useful" (*24*).

Perhaps Beard, Odum, Seligman, Mitchell, and company sensed more keenly than others that the tide of intellectual thought and feeling was beginning to run strongly in a new and more favorable direction. Among the *avant garde*, Darwinian evolutionary logic was pushed into the background by the new sensations of Einsteinian relativity and Heisenberg's "uncertainty principle," by the Freudian emphasis upon the role of emotional and irrational forces, and by culture and status concepts drawn more directly from social science itself. The intellectual environment in which the disciplines functioned was changing rapidly. The idea of progress was heavily attacked, along with the Turner thesis in history, and to identify with either made one seem rather Victorian. The wisdom of Boas in repudiating Darwinian race and culture-stage concepts overwhelmed the court of anthropological opinion. The net effect on the public mind was that Darwinism was *passé*, its leaders unmasked as men with feet of clay, and its basic principles close to the precipice of fraudulence.

The popular front was now losing its earlier tactical advantages, and the hard core of social or behavioral science began to reemerge. Suggestions appeared that natural science was materialistic if not mindless, and that only social science could provide it with intelligent guidance. To these were coupled inferences that social science materials were so subtle, vague, and subjective in nature that the verification standards of natural science were of limited value or even irrelevant (*13, 29, 30*). After World War II, during the unpleasantness of McCarthyism and the Reece Committee's assault upon the foundations, social science attempted to jettison the allegedly socialistic implications of its title for the safer "behavioral science" designation. Rather contradictorily, an assault was mounted on the secondary education sector to change the term "social studies" to "social science" as a curricular expression (*18, 37*). By 1960, this attack had expanded into a campaign to change the content and methodology of social studies offerings as well.

Some Key Issues

From this historical introduction, though admittedly sketchy and less than perfectly accurate, one turns a bit more confidently to consider the contemporary situation.

The first issue is vital to historians at the level of secondary education, and hardly less so to their college cousins. How far do social scientists wish to go in reconstructing the high school social studies course? Not even the recent ACLS–NCSS symposium is very helpful in clarifying this issue, for while Dr. Berelson's summation seems to expect a "drift away from the history major," Professor Strayer, in the essay immediately following, tells us that more history is called for all along the social studies line. The ambiguity is not a comfortable one. In Kidd's 1953 appeal (*18*) for changing the title "social studies" to "social science," the author answered his own question, "Will history have a place?" by suggesting that historical interpretation is really a humanity and can be treated as a social science only if it lives strictly by the new social science rules.

On the one hand, there are the moderate social scientists. These would have the social studies curriculum enriched by more use of sociological, anthropological, and psychological concepts, but depend upon broadened teacher-preparation requirements to accomplish it. This is very close to the position outlined by the Chicago sociologists sixty years ago. As Mark Krug summarized it recently, history would continue to operate as "the core of the social studies curriculum, supplemented by insights, understandings and concepts from other social science disciplines" (*19*).[2]

On the other hand, there are the all-out social scientists who give every indication of desiring to banish history entirely. They see the problem as one of determining "how to make the local social world fit into the social studies curriculum," and the answer in shifting from historical experience to contemporary social analysis for basic structural organization, with units which "seek guidance from the behavioral sciences and not from the historians. . . ." (*12, 26*). Just what the coordinating social science discipline should be is in dispute, but history must stand aside. For example, Professor John Chilcott (*6*) advocates the use of anthropology on the grounds that "too few of the discoveries of the behavioral sciences have been included in current social studies programs. The emphasis is still upon history with little or no attention directed toward current society." As an interesting side note, Chilcott suggests that history should be rescued from its own practitioners, for "the current emphasis upon unique events in history and political geography is insufficient to provide an adequate knowledge of history."

Alternatively, Professor Donald Oliver (*25*) of Harvard would have us employ social psychology (*i.e.*, conflict control) as the basic integrating theme for social studies. Admitting that "to use this approach would mean leaving out large areas of American history," he concludes that nothing valuable is lost thereby, since "we would not call either the combined fact-myth-legend representation of history taught in most public schools or a purely descriptive account of immediate and distant cultural settings 'social studies.'" In order to discuss social issues intelligently, a student does not need such materials as these; what he really requires is a realistic, descriptive knowledge of existing culture plus "the general and technical social science vocabulary required to talk about it." The underlying question, Oliver concludes, is the relation of history to other sources of social knowledge: "The general (historian's) thesis is that without the tempering influence of history to give a broader perspective to the present, there is danger of great distortion in a picture of current social reality. So far as we know, there is little systematic evidence to back up this thesis." After arguing that all history is essentially subjective bias and therefore distorting rather than enlightening, he concludes that the social sciences should pay no attention to "pious hopes and emotional arguments" that history retain a central position among the social studies.

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[2] A basic and representative expression is Krug's (*19*). See also Spindler (*33*) and Weingrod (*39*).

In Defense of History

Should the social scientists chance to be given the power to remodel the social studies curriculum for which they now clamor, which of the two wings of opinion would exercise control? How influential and proportionately numerous within the social science camp is the anti-history group? The answer to these questions cannot help concerning historians deeply at all teaching levels. Every body of so-called learning should be ready to give way to truth should its basic data be proved erroneous by later breakthroughs in knowledge. This has already occurred in alchemy and phrenology, for example, and theoretically could happen to any discipline or sub-discipline, including history. So the issue arises: If history is truly "combined fact-myth-legend," then how much better is the social science variety of knowledge with which some would replace it? Historians, though they accept social science claims to a considerable extent, usually feel that the latter contain at least as much myth and rather more errors, imprecision, and inconsistencies at the current stage of development than does their own area. A few examples should suffice to indicate that this is more than impure bias.

Anthropological theory has fluctuated so violently during the past half century that the historian grows dizzy.[3] Darwinism came, conquered, and fled. Or consider the culture concept in general and cultural relativity in particular. It is only a short time since Mannheim's followers were telling us that not even mathematics had truth outside the cultural process. But a superabundance of critics now point out that cultural relativity leads to ethical cynicism and moral anarchy. Again, anthropologists still posit cultural relativity and then, inconsistently, denounce race prejudice as wrong for western (or world?) culture. They often seem to presume, on scientific grounds of the haziest sort, that mutual respect for all cultures will somehow balance out for a happier world. Interestingly enough, John Dewey never warmed to cultural relativism, saying that the existence of a variety of cultures did not disprove the superior truth of one of them (*9*, *11*). What are the geographic limits of a cultural area? Are differences between culture groups greater or more important than differences between social strata within a cultural group? How appropriate are community studies to an understanding of the national or international *large* societies which increasingly dominate the emergent twentieth century world (*41*)?

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[3] A convenient summary is provided by Voget (*36*).

As for social psychology, the historian finds it hard to believe that the idea of national characteristics, which has been so thoroughly exploded in his own discipline, is suddenly transmuted into truth by the wand of social science. He distrusts statements like, "Science after all is only one of the games played by the children of this world, and it may very well be that those who prefer other games are in their generation wiser," with the lack of respect for natural science which such words reflect (*27*). He wonders about the public interpretation of Freudian concerns with irrational and emotional factors, the extent to which Freudian psychology has freed itself from dogmatism, and the terms of its peace with other fields of knowledge.[4]

Has sociology given us a dehumanized picture of mankind as misleading today as the "economic man" in the late nineteenth century? Have sociologists become so much prisoners of their own generalizations that they overlook the importance of the unique in explaining society and social change (*43*)? Or take the current theme of class mobility and status consciousness. Is society growing more rigid or more mobile? Is America hierarchical or democratic in character, or both? It can hardly be said that sociologists agree with one another or have reduced the confusion of others on such vital points.

Truth or Romance?

In fact, social scientists generalize from limited data to a degree which takes the historian's breath away in all three areas mentioned. Many suspect that social science is confusing truth with mass popularity during our current romantic reaction away from biology and "cold reason" toward environmentalism. What would the rise of organized Afro-Asian racism do to current anthropological theory? Or the virtual disappearance of primitive peoples by their own choice? How will a breakthrough in mastering the genetic code affect underlying social science assumptions? It was not ignorance which led historian Carl Degler (*8*) to tell the American Historical Association in December, 1960, that sociological interpretations like those of Riesman, Mills, and Whyte are useful chiefly as shock treatment, for they simply do not stand up to the tests of historical criticism as evaluations of what happened in history.

A third issue is the extent of unity and consistency in social science knowledge. Although claims that the social sciences have drawn close together, especially in terms of methodology and interdisciplinary exchange of conceptual knowledge, are a commonplace in recent literature, these are only moderately convincing. The mood of present-day psychology, we are told (by a psychologist), is prevailingly anti-historical; yet the stance of most anthropologists is metahistorical.[5] Freudian, neo-Freudian, and non-Freudian psychologists still disagree on many fundamental questions of fact. Sociologists, anthropologists, and some psychologists often oppose the "intrusion" of natural science into social policy; other psychologists proclaim that they

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[4] For one example from an immense literature, see the paper by MacRae (*21*).

[5] A friendly point of view is presented by Wyatt (*44*). See also Shoben's temperate approach to this matter (*31*).

are one of the natural sciences. While controversy is normal and desirable within any discipline, one must ask whether such basic differences as these do not seriously weaken the faith in the integrative "truth" of current behavioral science.

There is another issue which is discussed more frequently over the seminar teacups than in cold print, but which deserves a public airing perhaps for that reason especially. Beyond question, much of the social science desire for increased recognition in the curriculum arises from a crusading faith that the reform and improvement of society will be advanced thereby. Yet a considerable case can be made to rouse suspicion that departmental imperialism, partly camouflaged, is a driving force of comparable importance. For example, political science has been for decades one of the departments most receptive to behavioral science ideas and influences. Today there is a reaction, sometimes bitter, against the results of collaboration. Professor Walter Berns of Cornell objects that "sociologists, social psychiatrists and, to an amazing extent, psychiatrists" have almost displaced professional political scientists in their own discipline, although the knowledge of political science displayed by these guests is so amateurish and partial that the field has been distorted dangerously in consequence (*2*). Professor Robert A. Dahl (7) of Yale writes that the usefulness of the "behavioral mood" to political science has now come to an end and will henceforth decay. And, significantly, "there seems to me little room for doubt that the actual content of almost all the studies that reflect the behavioral mood is a-historical in character." History is an absolute necessity to political science, he continues, and it is "unreasonable to suppose that anything like the whole field of history will lend itself successfully to the behavioral approach," however helpful it may be in treating certain "targets-of-opportunity."

Economics in Doubt

In another "old-fashioned" social science, economics, similar doubts have been expressed. Solomon Barkin (*1*) reports strong trade union hostility to social science influence, and Kenneth Boulding (*4*) concludes that while biology and engineering have a great deal to offer economics in the future, behavioral science has comparatively little. A final note is provided by Bruce Watson (*38*), who strongly supports "the possibility of channeling some of the increasing number of sociology students into secondary teaching," where they may simply present the basic "findings and methods of the social sciences" in the social studies classroom in place of historical material. Would a social science victory lead toward the broadening of general education at the secondary level, or toward its conquest by one comparatively narrow emphasis? Again the historian finds himself confronting an unresolved basic issue: How much should history concede, in the name of cooperation and progress, under the present circumstances? What is to be done?

Above all, those on both sides of this confrontation need to face the issues squarely, not to outflank or filter through or back into them. So far as the social sciences are concerned, there is certainly no "conspiracy" against history, not even any clear understanding that a few social scientists have proposed to transform the fundamental nature of the social studies. There is, however, a vague feeling that the dramatic advances of recent years have not been utilized by the schools to anything like the proper and deserved extent.

So far as history is concerned, the social science challenge has been obscured by the fact that it is only one among many forces seeking to influence what the historian brings to the attention of his students. Merrill Hartshorne (*14*) has recently surveyed these from the secondary education viewpoint—the scientific revolution in technology and physics, the demands by the new Afro-Asian nations and regions that their half of the world not be overlooked, the population explosion and world economic underdevelopment, the American economic revolution symbolized by automation and modern corporate structures, the political revolution hinted at by such terms as "big government" and "world interdependence," the contemporary crisis in values—plus the rise of modern social science. This is not to deny that social science is extremely important, but rather to explain that it is one among many meritorious claimants for recognition. The historian has an obligation to act as a fair and impartial judge in deciding how much student time should go to each new body of knowledge, and he takes this obligation seriously.

One unique feature of the social science controversy, which could hardly arise from any other issue mentioned, is that it accuses history not of carrying out its duties poorly so much as of being basically unimportant. This is likely to cause a searching self-examination, unparalleled since the days of Beardian relativism during the nineteen-thirties. It could well revive the smoldering dispute over history being in reality a social science or one of the humanities. It can hardly avoid the vital question of whether historical truth should be considered to lie in the record of unique individuals and events or in actuarial probabilities. It is likely to raise more seriously the postponed issue of "the future in history" and its predictive or extrapolative possibilities. Controversies like these would be not merely welcome; they are immensely desirable if historians hope to reduce the chances of a lapse into disguised antiquarianism, a threat never wholly absent from the scene of their profession.

Content in the Schools

The social science shift of target to secondary education offerings can only be commended if it brings closer attention to the articulation of social studies content on high school and college levels. The duplication of factual data, despite all efforts at justification, is at present scandalous. Nevertheless, many historians believe that their subject is simpler and more appropriate for adolescents than is social science. A study of levels of learning difficulty in terms of student age and maturity, of vocabulary, and of conceptual versus "factual" data applied to the specific case at hand would cut through the clouds of subjective rhetoric which have obscured such issues. With—but slightly behind—that inquiry should come a reconnaissance into the courses now available in teacher-training institutions which might provide adequate mastery of social science insights without necessitating a major or minor field of concentration by the would-be social studies instructor. One strongly suspects that very few such courses exist.

Oddly enough, in view of all the commotion, both social scientist and historian seem curiously uncertain of what the other side has to offer. For example, Professor Joseph Strayer's essay on history in the recent ACLS–NCSS symposium has the virtues of sobriety and clarity. Nevertheless, it is notable that while the methods or "concepts of the social sciences" are cited favorably in six different references, not a single behavioral concept is specifically identified or applied in a specific way which would really change current presentations. More teamwork between the disciplines to inform one another of what they teach, more consultation on what each expects of the other, more collaboration in producing suitable textbooks and teacher-training courses would certainly appear in order. Yet this kind of partnership is scarcely possible unless historians are given reasonable assurance that healthy disciplinary competition rather than a behavioral science monopoly is the anticipated result. Surely the advantages of peaceful coexistence are worth so small a price.

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Contributors

Most of us are obsessed these days with the theme of change. New nations are born; old patterns of work are disrupted by automation; population soars all over the globe. How can we assist young people to live productive and satisfying lives in such a world? This is the question to which three of our contributors address themselves this March in dealing with the social studies in modern education.

Wayne Morse, US Senator from Oregon, neither needs an introduction nor is any stranger to educational problems. Once dean of the Law School at the University of Oregon, he has been a devoted and informed proponent of our schools during his senatorial career. **James High**, an historian on the Santa Barbara campus of the University of California, is concerned with the relationship between the social *sciences* and the social *studies* in an effort to discriminate between the sense and nonsense in our curricula. Dr. High's most recent book is the well received *Teaching Secondary School Social Studies.* Similarly, **Frederick D. Kershner, Jr.**, a faculty member at Teachers College, Columbia University, where he specializes in the cultural history of the United States, also is occupied with curricular sense and nonsense, searching productively for wisdom in the tensions between history and the behavioral sciences.

But technologized modern society poses another question: How can those of us who are not scientists learn what we need to know to participate effectively in our culture? Attacking this problem this month is **Gerald Holton**, the physicist at Harvard's Lyman Laboratory who was named last September among *Life Magazine*'s "100 most important young men and women in the United States." His contribution is derived from an address given last Spring at the Conference on Science for the Nonscience Concentrator on the Oakland campus of Michigan State University under the sponsorship of the university and the National Science Foundation. The *Record* is grateful to Dr. Robert Hoopes, the editor of the forthcoming *Proceedings* of the Conference, for agreeing to the early Publication of an important statement.

Basic to our comprehending both modern science and the social processes under which we live is an adequate ability to communicate. **Philip Bollier**, an unusual combination of literary critic (studies of Eliot and Hemingway, for example) and composition buff, shares with us his views on learning this fundamental skill. Dr. Bollier, who teaches English at Tulane, has recently been enthusiastically involved in the special institutes on the teaching of composition, established by the CEEB's Commission on English.

In short, new methods and new vistas are urgently being sought. One of the new methods much in the news is team teaching. It is discussed for us by **Philip Lambert** of the University of Wisconsin, who, although he is a strong supporter of the team concept, worries about its premature application, especially in the educational systems of emergent nations. A new vista is supplied by **Andrew Lind**'s report on trends in higher education in Southeast Asia. Dr. Lind, whose *Hawaii and Its People* is a kind of sociological classic, spent last year on leave from the University of Hawaii in Thailand.

Finally, **John Holland** of the National Merit Scholarship Corporation vigorously and insightfully reviews two influential books, Martin Gross's *The Brain Watchers* and Banesh Hoffmann's *The Tyranny of Testing.*

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What's wrong with English composition?

WHAT IS WRONG with the teaching of English composition in our schools, particularly our secondary schools? A common question, surely—asked time and again, asked and answered. Why, then, should I ask it once more? Perhaps as a teacher of English in various colleges and universities for the past sixteen years, I may be forgiven the opinion that despite the answers advanced something remains wrong. Each September, I discover again that all but the most intelligent freshmen (whatever "intelligent" means) continue to have difficulty in writing—for that matter, often in reading and thinking as well. Whether or not instruction in how to read and write intelligently is, or should be, the sole responsibility of English teachers or even their primary concern, I share the assumption of the man in the street that developing these skills is a fundamental part of any English program. When college freshmen are deficient in these skills, I too think that something is wrong. Like most college teachers, of course, I have been inclined to put the blame, broadly speaking, upon professional educators, above all those in departments of education or in teachers colleges, because they are responsible, if anybody is, for what, from the academic point of view, is the greatest absurdity in secondary education today: teachers trained not in the subjects they teach, but in "pedagogy." Nor have I changed my mind. What I have changed is the comfortable assumption that we who teach English in colleges and universities are free of blame for the fact that Johnny cannot read or write.

Nostra Culpa

No, if something is wrong, it is not simply because through indifference we have let educationists define what English is and how it should be taught. On the contrary, if too many English teachers in our schools themselves cannot read or write or think—if they confuse paraphrases with original work, grammatical rules with effective writing, correct spelling with intelligence, who, after all, has taught them English? The great majority of them have passed through our hands, if only in a required freshman course. For that matter, so have the educationists. Nor can we explain this fact away by pointing at the generally poor scholastic and academic records of most teacher candidates. We actually are no more successful with the majority of our other students. We too can fail, and ours seems the crucial failure. No doubt, the place to begin improvement of English instruction is first grade—but how if the teachers continue to be poorly prepared? By now, most proposals for reform, like the Summer Institute program, recognize improvement must start at the top with the re-education of teachers. But where is the top? Is it not in the colleges themselves? The answer is obvious, and so is our dilemma: We must re-educate ourselves. To do so, however, is not easy, as most of my colleagues in recent Summer Institutes would agree; they know what it cost us during planning sessions and later cost the teachers we taught. Yet it must be done, and done by us not as individuals only, but as a profession. The time has passed when we could consider what we say and do a private matter. Either we decide to perform competently the job which the public assumes is ours, or we refuse to do it at all. To me, refusal would be fatal both to us as a profession and to one of the last hopes which remain for a literate and liberally educated citizenry.

The Task

What is the job the public expects us to perform? Why have we failed? The answers to both questions lie in another: What is English? The man in the street has no doubts. It is reading and writing, the study of our language and literature. It is at once the knowledge of how to use our language and of what that language is and what has been written in it. The man in the street also has no doubts which kind of knowledge is more important. For him, education is still learning the three Rs. Shakespeare is nice, but even in the age of TV, reading and writing are necessary. College English teachers agree, but we are not so certain that it is necessary to teach reading and writing in college. Our uncertainty, however, is not merely based on the conviction that every college freshman should possess these skills already. It is based on the lack of conviction that these skills are properly part of English study at all. True, we do teach, or try to teach, reading and writing skills in what are generally called composition courses at the freshman level. So far, we have had to because no one else will do it. Yet, whether we define "composition" as reading and writing, or simply as writing, the status of composition as an academic subject today is ambiguous. The Commission on English, by including composition along with language and literature as part of its Summer Institute curriculum, implicitly assumed it was a subject of study equal in importance to the others. Most departments of English would not agree.

Not long ago, Josephine Miles (*1*), concerned with the role of reason in teaching composition (a fine article, incidentally), had this to say:

> Sometimes instructors in other departments (at the University of California) say, "But it's the English department's job to teach English, not ours." Here is a great confusion based on a telescoping of terms, a confusion of the English masterpieces, which are the subjects of departments of literature, with the English language, which is the medium of thought in all fields. As the subject matter of English departments and courses is literature in the English language, in that subject matter as in any other, but neither more nor less than in any other, the processes of reasoning are relevant and teachable (1).

Mr. Paul Roberts (*2*), author of several texts about English, is even more illuminating:

> Everybody who is not an English teacher seems to think that English teach-

> ers have had special training in English composition and in how to teach it. We have not had. We have been trained in English and American literature, in Old English philology and structural linguistics. Nobody is trained in composition because composition is not a subject. There is simply nothing there.
>
> My proposal is that departments of English refuse to accept any longer the whole responsibility for the improvement of writing. We should insist that our function is simply the teaching of language and literature. I would want our students to write just as much as they do now, and I would want their writing just as rigorously criticized and corrected. But I would want them to write in our subject field—language and literature (2).

Few people would challenge the need for reason in writing about any subject or that implicitly it is the job of everyone to "teach" English in the sense of insisting upon clear and reasoned papers. Nor would many deny that it is preferable that students write about something which both they and their teachers know, granted what English teachers know is only language and literature. If composition is not a subject, however, why not? Plato and Aristotle thought it was, and even Miss Miles, who does not think much of old-fashioned rhetoric, admits that some rules of thumb are useful and teachable.

Public Pox on Prose

The best answer begs the question. Whether composition is a subject or not, few of us think it worth study. This attitude, I dare say, the majority of my colleagues hold. Perhaps for this reason, the teaching of composition also carries little professional prestige. At any rate, wherever and whenever possible, it is a task left to inexperienced instructors and graduate students. For them, even if not viewed as an unpleasant task (All those papers!), teaching composition is only a necessary stage in their apprenticeship. Rarely do any think of making it a career. The typical young teacher looks ahead to the day when he will be given a literature (or a language) class, and, above all, to the time when he can take over from a retired elder an advanced course in his own specialty. I do not exaggerate when I say that a majority of young instructors identify English with literature alone or that many of them live in the secret hope of climaxing their career with an invitation to join a graduate faculty. And why not? *Their* teachers, *their* professors, either have been graduate school faculty or, with few exceptions, have taught undergraduate courses as if they were. Like breeds like; and the graduate professor, preferably with an endowed chair at, say, Harvard, remains the ideal. Scratch most composition teachers, in fact, and one finds a frustrated literature teacher, whether he be new critic or historian of ideas; and this state of mind also seems to prevail among many secondary school teachers —an innocent enough ambition perhaps, if their students needed no further training in how to write an intelligible theme.

Whatever the causes, this attitude has unfortunate consequences for college composition. Because even our promotions reflect the prestige of literature (to be promoted we must write, but write about literature—or language), serious research into the problems of composition is discouraged, on the one hand, and on the other, composition teaching itself is left to the inexperienced or the second-rate. Staffing of elementary college courses with the inexperienced is a common practice in other disciplines, too, and one which, on the whole, I would defend; but it is doubtful that the novice can cause as much harm in other subjects as here, where the instructor's own intelligence, knowledge, and taste must take precedence over any other authority, including the text. There simply is no objective way to criticize, correct, and grade a paper, and in most institutions even the supervision of teaching fellows is likely to be viewed as an infringement of professional freedom.

Nothing, in short, can disguise the fact that composition, which means in practice primarily expository writing, is not well taught because nobody wants to teach it and nobody wants to study it. Consequently, from the point of view of expert writing instruction, the average college composition course almost universally required of freshmen is unsatisfactory. It tends to be primarily a review of "English fundamentals," the same hodge-podge of platitudes about how to write a theme and of rules of grammar, punctuation, spelling, and diction, which, as taught in secondary schools, has failed to prepare students to write a passable composition in the first place. What reading is done to provide models for writing is generally a miscellaneous selection of essays and articles on subjects in which the average English instructor can claim no special competence—history, psychology, sociology, philosophy, religion, and campus mores. I will say more about the value of such a course later, but obviously composition is not taught as a subject in the same sense that history is or even elementary mathematics, also in part a how-to-do-it skill. On the other hand, for most students, including English majors, unless they elect one of the rare advanced writing courses, this freshman course is the last in which a composition as a composition is "rigorously criticized and corrected," as Mr. Roberts would have it, not only for its expression, but for its information and judgment—that is, for its value as subject matter.

Writing as Substance

This last point is worth elaborating. Miss Miles and Mr. Roberts both agree, and so do I, that all college teachers, whatever their subject, should concern themselves with good writing. But most college teachers teach subject-matter courses, courses in which, at the undergraduate level at least, including literature, the primary concern is with imparting information and in judging it. What a student knows about the subject is given greater weight than how he presents it (to the extent that substance and expression are separable). I do not mean that no attention at all is paid to how something is said—only that such attention is likely to be minimal, a notation of basic mechanical errors like spelling or brief and general comments about organization. There are many reasons why this practice exists: the purpose of such courses itself, large classes, the tendency for papers to be rather long and probably involved. Furthermore, these same factors do not encourage instructors' giving many papers. In brief, after the freshman year, a student's writing receives little criticism of the kind needed to effect genuine improvement in it. Perhaps it does not matter for the ordinary student. But what about those who intend to become teachers in school or college? No wonder our colleagues in other departments want us to teach writing! For the most part ill-trained themselves, they simply do not know what attention to pay to writing as writing. And what about us? Do English teachers have any better training? Mr. Roberts has said not. He is right. Whatever we know, we have learned in the same way, by writing term papers, theses, dissertations, learned articles, and, of course, by grading scores of freshmen themes each week. That what most of us know is enough seems doubtful. Whether or not one must be able to write well in order to teach writing, our own prose is likely to be pedestrian—witness our scholarly and critical journals in which we promote ourselves—and the ineptitudes as writers of too many English graduate students hardly recommend our tutelage.

The difference between the academic attitude toward English composition and that of the man in the street, whose attitude has dominated English study in the schools, is a capital one. If it can be explained by an appeal to history, to the fact that American colleges and universities have traditionally been concerned with subject matter, not skills, neither its inherent contradictions nor its consequences can be explained away. One may sympathize with the hope often expressed within my profession that with the reform of instruction in the schools, remedial English in the colleges, if not composition entirely, no longer will be necessary. This hope, however, like so many ideas we have about ourselves, is unrealistic. It rests on the assumption that the schools cannot only be persuaded, but somehow instructed in the proper way to perform a task which apparently even college English departments cannot do. And if we continue to fail to do the job—or worse, refuse to try—where are the secondary school teachers going to come from who are to perform this miracle beyond our own competence? It may be argued, certainly, that if composition must be taught in the colleges and universities, at least to prospective school teachers who then can teach everyone else, it need not be taught by those who prefer to regard themselves as linguists or as literary scholars and critics. Why not establish departments of composition, staffed only with those who like to teach writing and who know how to do it? As a matter of fact, this solution is an old one. Many institutions, especially large state universities, have established autonomous writing divisions within English departments or independent departments (the current fashion is to grace their subjects as "Communications" or "Communication Arts"). English departments when dominated by literary studies seem prone to such bifurcation; linguists and speech teachers often have similar autonomy or independence. Many institutions, however, have also abandoned these experiments and reconsolidated.

An Integrated Rhetoric

Whatever the specific reasons, this solution cannot be called an unqualified success. Still, as an alternative to the complete abandonment of college composition, it is better than nothing. Moreover, it might be ideal, if one could hope that through thoughtful exploration of what is involved in writing, someone might formulate a new rhetoric, a science or an art, a recognized academic subject, the study of which would prepare new teachers for both school and college. Yet because a new rhetoric would have to be more than a mere body of rules to develop communication skills, I am personally all the more reluctant to envision it as divorced from the rest of English study, language and literature. What I mean may be clarified by looking again at composition itself as generally understood. What is it? Reading and writing (or listening and speaking), I have said —the use of *language* either to talk about something or to understand what is talked about—that which in the broadest sense is called *literature*. Composition is at least this. If so, to think of language or literature study or composition as discrete subjects is to make an arbitrary distinction, convenient no doubt, but false when it permits us to forget that the study of one is barren without the rest, that all three are simply points of focus upon overlapping areas of one continuum of knowledge. To me, therefore, it would be disastrous to separate one from the other. It would lead to a common impoverishment of each. Overspecialization leads not only to the familiar "knowing more and more about less and less," but also to crankiness and idiosyncracy. Even if language and literature studies were unaffected, composition cut off from them would be in danger of becoming a sterile discipline in techniques, not because composition theorists could ignore the facts of syntax or usage or avoid literary works, but because they would be tempted to employ these facts, as technicians always are, without understanding what they mean in the larger context from which they have been plucked.

Perhaps I am an alarmist when I conclude that to establish composition (or name it what one will) as a separate discipline outside English departments would end this way. Yet from my observation of what happens in speech departments, limited though it is, I am not reassured. The disrepute into which the study of traditional rhetoric itself fell, however, serves as warning enough. Almost from the moment the ancient rhetors began to teach their art, their *techné*, as something separate from philosophy, they succumbed to this same temptation. As Socrates in *Phaedrus* scathingly noted, rhetoricians knew nothing except how to lie well. His denunciation of them was based on their ignorance, not their ethics, and it is this ignorance which I too fear should composition be divorced from English study. Ignorance of what? Of the truth and the ways to grasp it.

The Socratic Stance

Today we may be more uncertain than Socrates that we can ever possess truth pure and simple, but we are still dedicated to the attempt. I can think of no better definition of what composition study might be than Socrates's formula for a legitimate rhetoric. What he required of the rhetorician was first to know the truth about all things, or at least to know how to determine it through observation, dialectic, and logic; second, to know one's audience, what men are like, the different classes and types of men; and, third, to know how such men will react to this or that truth in different situations so that one may persuade them to accept the truth and act upon it in harmony with it. After this is mastered, there is time enough to master the varieties of ordonnance, the felicities of style.

Is rhetoric or composition so defined an impossible ideal? It is, if thought of primarily in terms of technique; but if the necessary grounding of rhetoric on dialectic is remembered, then I dare to say that, perhaps despite ourselves, we college English teachers approach it. Within wide variations, the freshman course, so frequently mentioned, assumes that reading, writing, and thinking are related skills, that to write one must have something to write about, and that to write well, one needs some examples of good writing. Consequently, almost the whole of human experience, from a student's Christmas holiday to the impact of Einsteinian relativity upon religion, may be subject to investigation and, above all, to class discussion. Through the give and take of such informal dialectic, much of what Socrates asked the writer to know can be learned. Indeed, probably in no other undergraduate class will the majority of students ever again be invited to consider the major ideas which inform our civilization in quite the same way—not simply from the point of view of the historian or the philosopher or the logician, not simply as data to be learned, but from many points of view, from as many as are represented in the essays read (their authors all eminent men) and found among the students themselves. And out of this clash of ideas comes, or can come, that understanding not only of ideas, but of other men and themselves, which is only possible through free, intelligent, informed discussion. From the point of view of educating human beings, such a course is the most valuable course English departments offer. Furthermore, although other kinds of courses can achieve the same ends—humanities courses, for instance, or Great Books—*if* conducted in the same way, no writing course which concentrates on mere skill can, nor can teachers whose professional training has been merely technical.

Humanistic Tensions

Granted, freshman English falls short as a composition course in a narrow sense. Granted, too, it fails to give any rigorous formal instruction in dialectic or logic and deals superficially with the rest of human knowledge. Nevertheless, it invites, indeed often compels, the student for the first time to think for himself on serious subjects in open forum. It is hardly hyperbole to say that for many undergraduates it is the one course they will take not dominated by that specialization of knowledge which reduces communication between intelligent men to a mumble. By chance more than anything else, we in English composition become the heirs to Socrates. I do not speak of us as persons but as teachers, nor do I mean any discredit or discourtesy to my colleagues in other departments; they have other business. The fact remains that however inadequate our knowledge and wisdom, however feeble our efforts, we are virtually alone today in keeping the humanist conception of education alive in the undergraduate classroom, not by talking about it, but by acting it. Nor is there any doubt that here our knowledge of literature has special worth. Literature, after all, is the most articulate record of that which Socrates sought—knowledge of the good, the true, the beautiful. Indeed, except for the physical sciences, what knowledge is not ultimately a part of literature?

My panegyric to freshman composition does not contradict my thesis. Few of these courses are as good as they should be, particularly in respect to writing. Few of us who teach them are well prepared, either as Socratic philosophers or Socratic rhetoricians. If we must continue to teach composition, as I think we must, we also must reformulate what we should know and how much of it we can teach. Such reformulation is necessary as a profession-wide enterprise because, despite what already has been done towards this end, the lack of communication among us, the result of specialization, prejudice, and indifference, has kept too many of us in the dark.

Socrates thought of education as maieutic: to teach was to draw out into intelligible form knowledge which a student possessed but did not know. We too have knowledge we do not know, or do not know well enough. If Socrates is right about the prerequisites for a true rhetoric, much of the knowledge we possess yet do not know comes from other disciplines like dialectics, logic, semantics, history, sociology, psychology—subjects rarely required as part of our formal training. To be sure, as students, we have taken courses in all or some of them as undergraduates; as teachers, we employ what we remember, but our knowledge of these subjects is likely to be piecemeal, oriented toward other ends than our own, and whatever synthesis we have oriented toward our own ends we have made individually—except for the tentative speculations made for us by the relatively few thoughtful composition teachers who have also written texts which attempt to go beyond the inanities of standard composition handbooks and rhetorics. How much of our postgraduate education, and miseducation, derives from freshman texts is surprising!

Toward Theory

What is sufficient for elementary courses, however, is not for us who teach them, and when I say that we must consider such a synthesis of knowledge and methods as part of any composition program, I mean that first of all we need it for our own training at the graduate level. There is time enough to introduce it to undergraduates when we have mastered it ourselves. What we must aim at as a profession is the development of such a synthesis, of some comprehensive theory of composition. We need to know what we know, to collect and evaluate existing theories, data, and methods—the kind of taking stock which in recent years has radically changed our ideas about the nature and function of literature and of literary criticism and scholarship. How useful a *Theory of Composition* analogous to Wellek and Warren's *Theory of Literature* would be! We need a major cooperative effort of research and speculation in order to define our subject and to clarify our aims and purposes in teaching it, an effort which will bring into relevant focus all the knowledge which already exists in the minds of specialists both in our own and other fields.

Where to start is another question. The question may seem irrelevant if it is true, as I have suggested before, that many of my colleagues, both individually and collectively, have been thinking and working along these lines. On the other hand, what a few of us are doing is not enough so long as the majority remain ignorant of it or indifferent. The problem is not just the concern of specialists; it is the concern of everyone who teaches English. To make a start, we must attack that attitude which refuses to take composition seriously at all, that disease of English departments which I have described if not diagnosed.

What we need, in short, is a change of heart. We need to convince ourselves that composition is a respectable academic subject and that teaching it is a respectable career, or a legitimate and worthy part of our career, as English teachers. When anyone says, as Mr. Roberts has, that composition is not a subject because there is simply nothing there, or implies that even if there were, it would not be our business, we must object. There *is* something there, however inchoate. It *is* our business. We have been minding it in a fashion for years. After twenty or thirty years of teaching, most of us somehow have learned what is there—what we must know to teach composition and what it is we teach. Unfortunately, most of us by then are no longer teaching it.

That Johnny May Write

What I propose is that this knowledge be formulated so that it may be used to some purpose by those who do teach writing. Who can say? Perhaps, if we can teach ourselves to teach our successors to teach prospective secondary school teachers how to teach composition, then we all may even succeed in teaching Johnny how to write! Then we can retire to our proper studies again, to the incidence of metathesis in Old Middle West Saxon, or the significance of Henry James's household expenses (item by item) during the period when he composed *What Maisie Knew*. Otherwise, most of us may simply be retired. Even professional myopia should not blind us to the fact that what makes our proper studies possible is the composition business we are in. We can be literary or language scholars because we teach, and graduate teachers because our students can find employment teaching freshman English. The choice is ours. I would hope that we make it in the public interest, as civilized men dedicated to the education of civilized men and women and to the advancement of learning. Our motive, however, does not matter. Our choice does.

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Issues & Items

Gold in Them Thar Books! The moral to be drawn is a little hard to identify; it may even be dangerous to play the game of drawing inferences. Nevertheless, the story is one worth a bit of pondering.

It happened, according to the Athens newspaper, *Naftemboriki*, in the Chalcidice Peninsula in Greece. A mineralogist and businessman, A. Xenarious, who also is devoted to the great classics of his country, read in some ancient texts about the extensive manufacture in the Chalcidice during antiquity of jewelry and other decorative objects. From the descriptions of both the industry and the countryside, he concluded that extensive deposits of both copper and gold must have existed not far from the modern town of Skouries. At his instigation, a survey was conducted by the Sub-Soil Research Institute, which found. . . . Right! Assays indicated about 200,000 tons of pure copper and a large deposit of pure gold, both of which can be economically extracted.

From Mr. Xenarious's reading of old books has emerged a new mining company, working, interestingly enough, in collaboration with Nippon Mining Company of Japan. After the ore is dug, it will be subjected on the spot to preliminary refining, a step which will increase the proportion of metal from 1.5 to 30 per cent per ton of processed rock. This material will then be shipped to Japan, where processing will be completed. In its initial phase, the operation will employ 300 men; double that number will be needed a little later, when a port will be built to facilitate the shipment of ore from Skouries to Japanese refineries.

It may be an unusual outgrowth of a taste for classical literature and ancient history, but it probably isn't the first time that social and economic gains have been registered on the basis of a knowledge of the classics energized by a classically active and disciplined imagination.

★ ★ ★

Bughouse Square on Campus. They have existed ever since the city, the basis of civilization, came into being—the malls or parks or street intersections where anybody with a notion to share or shout could, at the risk of free and animated heckling, find a crowd, large or small, to test his ideas on (or against). These sites of informal oratory and hectic debate, evangelism and exhibitionism, imagination and crackpot impulses running wild, are known as bughouse squares. Macaulay described an earthily exciting one of about 1700, London's Lincoln's Inn Fields; in the United States, there are New York's Union Square and its San Francisco counterpart of the same name, Washington Square in Chicago, and Pershing Square (now MacArthur Park) in Los Angeles, to name only a few.

As William G. Carleton, the well known political scientist at the University of Florida, has put it (writing in the *Antioch Review* for Fall of 1960):

> . . . a really first-class bughouse square is a bit of skid row, carnival, evangelistic revival, poor man's town hall, and people's university rolled into one. . . . The prerequisites for a first-class bughouse square have been a concentration of population, metropolitanism, a meeting and mixing of diverse experiences and cultures, and a degree of freedom—cultural freedom even more than political freedom.

It is Dr. Carleton's observation that bughouse squares are vanishing. "Some have disappeared without a trace, and in those which have survived, there are fewer participants, the debates and discussions are less vital and diverse, and in some of them a grotesque exhibitionism proclaims their decadence." In his eyes, this development is a regrettable one; for if the gregarious arguments that took place in these urban marketplaces of ideas were often marred by vulgarity, ignorance, and chicanery, they were also a sign that men thought their ideas counted and that the world they lived in was an exciting, personal, and manageable one. Neighborliness and personal distinctiveness were taken for granted by the habitués of bughouse square, and if they sometimes were short on deodorants and grammar, they were usually long on a sense of personal identity and a feeling that they were anything but disarticulated from the processes by which important decisions are made.

It is against this background that we found pleasure in the news from Seattle. A portion of the University of Washington campus has been set aside for soapboxes and the Hyde Park spirit. Any angry young man (or Catt-like co-ed), whether leftist, rightist, or centrist, can claim what forum he can in a region near the Student Union and, subject to heckling from the crowd, proclaim his views.

There are rules, of course, quite different from the unwritten regulations of the bughouse squares of old. For example, talks must meet accepted standards of good taste. Speakers may not carry out religious exercises or give religious instruction, both of which are forbidden in educational institutions by the Washington constitution. Money may not be solicited for the causes advocated from the rostrum. And only regularly enrolled students may enjoy the privilege of the soapbox. Nevertheless, it is a worthwhile development, and it is good to see it grow on a university's grounds. Being bathed and literate has never really been an impediment to a free flow of ideas, and if Washington's bughouse square has the unfamiliar smell of after-shaving lotion and good syntax about it, it still proclaims the old values of the individual asserting his basic convictions out of the belief that they—and he—count in his community. Long may the soapbox stand by Puget Sound!

★ ★ ★

Turkey on the Peace Corps. When the Peace Corps was founded, it was widely expected that the services it could most helpfully render abroad would be essentially technical ones—engineering assistance, aid in the establishment of more modern methods of farming, the skills of the trained mechanic, etc. In practice, however, the contributions of the Corps have been overwhelmingly educational and diplomatic. It is teachers more than any other occupational group who are needed in the Corps and welcomed by the countries requesting its help. The reception recently of 30 Peace Corps teachers of English in Turkey is only one illustration of a highly general case.

The fortnightly *Forum*, published in Ankara, hailed their arrival not only as a longed-for relief from the critical shortage of language teachers in Turkish high schools, but as relevant aid offered "not through official channels but on a person-to-person level." The fact that these young American men and women will be receiving salaries that do not exceed those of their Turkish colleagues was commented on with particular favor, and the entire concept of the Peace Corps was hailed as "the first time that a friendly American hand has been extended to the people themselves." In contrast, *Forum* noted that "over the past few years a number of unpleasant incidents have been created by Americans in uniform," and that the fact that "America's representatives generally do not move outside of their own little circles in the big cities has certainly not endeared them to us." The article concluded with a challenge worth noting: "The success of the project will depend on the sincerity of the volunteers' efforts to understand and help the Turkish people and on the honesty of their accounts of America."

With educational missions becoming increasingly an important aspect of US commitments overseas, this Turkish mirror is a crucial one in which to examine ourselves. The basic principles of effective foreign aid are sharply sketched in these brief paragraphs from an Ankara magazine. It is to the lasting credit of the Peace Corps that its members are trying genuinely to understand and implement these requisites. The rest of us need to do so, too.

* * *

Monthly Miscellany. Although she is not likely to be present in person, Mrs. John F. Kennedy will receive this month the Distinguished Service Award from the National Art Education Association. The presentation will be made during the Association's annual meeting in Kansas City, Missouri, in honor of Mrs. Kennedy's outstanding role in making the nation more conscious of its cultural and artistic heritage. . . . An enterprising group of students at Columbia University have formed themselves into a little business called Columbia Party Service. Providing bartenders and waiters for social events, the group's publicity promises not only that "every Columbia bartender has taken a specialized course offered by the Student Employment Division," but that "No student is sent alone on a job who has not, through supervised work, shown himself an enthusiastic, capable worker." . . . Dolefully, it's happened again! Under the President's Youth Fitness Program, tests of strength and coordination were given recently to over 16,000 fifth- and sixth-graders in the Milwaukee schools. Results showed that 52 per cent of the boys and 74 per cent of the girls were underdeveloped in shoulder and arm strength; 16 per cent of the boys and 15 per cent of the girls were below the cutting score on abdominal strength, and 16 per cent of the boys and six per cent of the girls were poorly coordinated. We still have a way to go, apparently, in rediscovering ourselves as physical organisms, taking pride in the discovery, and cultivating our bodies accordingly. . . . The Asia Society (112 East 64th Street, New York City 21) has prepared an excellent "Introductory Reading Guide to Asia." Single copies of this very useful little bibliography are available free from the Society. . . . Latin recently suffered a surprising setback in, of all places, Rome itself. The ancient language of the Italic peninsula has been made an optional rather than a required study in Italian schools after socialists in government attacked it as "a tool of class discrimination." We keep wondering what Cicero would say if he could hear such ideas voiced in the

Senate. . . . Through the World University Service, students in the US are raising funds for the building of a new dormitory and dining hall at the University of Huamanga, located in the mountains of Peru. Peruvian students, for their part, donate a few hours every day to leveling the land for the new structures. Huamanga is a distinctive institution, dedicated to educating the Indians indigenous to the region and providing the technical training necessary for them to develop their local resources. . . .

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Team teaching for today's world

Although it was only four years ago that the first project in team teaching was started in Lexington, Massachusetts, it has already become one of the most talked-about developments in American education. Like most important new approaches to instruction, it has attracted both sincere supporters and violent critics. Relatively little is really known about team instruction, but arguments pro and con are heard all over the country. Teachers and administrators in hundreds of school districts are trying to sell their colleagues on team teaching, and asking eagerly, "How do we do it?" Others are hurriedly reviewing their program and digging up points which will enable them to defend the existing system. Often both sides use the term "team teaching" to describe types of school organization which have little or no relation to the real thing.

In its simplest form, genuine team teaching occurs whenever two or more qualified teachers have responsibility for the same group of children at the same time (7). It should not be confused with student-training programs or with the departmental type of organization. In a real elementary team-teaching program, each teacher can and probably does teach each subject and each child in the group at some time. At the high school level, teaching teams may be set up for a single subject, but even here every team member is at least theoretically responsible for every child.

Team Structure

The teaching team as it has developed in practice usually has five or more members serving up to a hundred or more children. At the Washington School in Madison, Wisconsin, for example, the Intermediate Team consists of sixty children who would normally be in grades 4, 5, and 6. Working with these children are two fully qualified teachers (a team leader and a senior teacher), two teaching interns (graduate students studying for a master's degree in education), and a teacher aide, or instructional secretary. This is what is called a "non-graded" team arrangement—that is, it serves children of varying grade levels. In a graded team plan, all the children would be at the same grade level, though different levels of ability would be represented. For example, all the tenth-grade teachers in one or more subjects in a large high school might combine to form a graded team.

One of the marks of a genuine team program is that it uses the special abilities of all its members to the fullest extent. The years of experience and high administrative ability of the team leader, the secretarial training of the teacher aide, and the special subject competencies of all the teachers are brought to the service of the class as a whole. But a genuine team plan also gives teachers a chance to learn new teaching skills and gain competence by sharing in planning and execution in all areas, rather than simply isolating each teacher with the subject or ability group he is most familiar with.

The flexibility of real team teaching is another point which has recommended it to educators. In the Washington School team, children have been grouped by ability, need, grade, and interest, as well as by random sample for the purposes of evaluation. At one time, for example, grouping was by ability in reading and arithmetic, by need in spelling and language, by grade in penmanship and social studies, and by both grade and interest in science. Groups contained any number of children from two or three on up. Whereas some teaching is best done in a tutorial arrangement, other types can be done just as well or better with very large groups. This statement may seem to contradict everything educators have said in the past fifty years, but recent evidence has made us question the validity of having small classes for all our teaching work (*9*).

The Washington School children met in a large group for films and lectures in which curriculum material was presented, and also for current events, class meetings. study hall, singing, general activities, and announcements. All the children attended classes in music and gym as a large group once a week, as well as in smaller groups for specific skills.

Whenever team teaching is discussed, a number of questions arise again and again. Since there have been no large-scale projects that answer these questions systematically, the statements offered here must be considered as essentially empirical and ancedotal.

Team Members

We are often asked, "Is a team leader necessary?" Theoretically, this is an arguable point. In practice, however, it appears that a team which does not have a designated leader cannot function efficiently because it continually bogs down over unimportant decisions.

The principle of the team leader recognizes that all teachers are not similar in their ability to teach or in their ability to lead other teachers. Some teachers should be responsible for more children —or be, as we say, "overexposed," whereas others should be "underexposed" —that is, they should have fewer responsibilities or direct fewer children. Once this point is admitted, we can then open the door wide and also recognize that different skills and competencies are advantageous in almost any area. In high school freshman English, for example, a poet, a dramatist, and a grammarian would form an excellent team. In the elementary grades, we need mathematics and science people teaming with social studies and language arts people.

The role of the team leader is one which demands organizational skills, the gift of teaching well, and an ability to conduct group meetings. Extensive training and experience is needed to develop such skills. An experienced team leader will probably also have many public relations obligations. The team leader at Washington School, for instance, is often interviewed by visiting educators, the local press, and people who are doing research on team teaching.

The existence of the role of team leader also solves the problem of how a skilled teacher can advance professionally without deserting the classroom. When such teachers become team leaders, they are placed in a position where both children and teachers can learn from them directly. Naturally, the considerable increase in responsibility involved also calls for an increase in salary.

The role of the other senior teacher (the "co-pilot," as one team has called him) is that of complementing the team leader's skill. He must also have the ability to recognize, with the help of the team leader, where his particular contribution lies.

The graduate intern is typically someone who has an AB degree and is taking one of the newer specialized programs towards a teacher's certificate at the graduate level. He spends one or two semesters attached to a teaching team. At the same time, he is taking an appropriate seminar which will assist him in gaining relevant knowledge of both subject matter and teaching processes. His function on the team alters according to his growing ability.

The teacher aide, who may be a mother working part time, needs rather specfic direction, especially in the beginning. Her tasks may range from helping teachers to put on childrens' boots in rainy weather to composing and typing letters to parents. Within her special competence, she can do many jobs better and more efficiently than the teachers (*10*).

We have been asked whether it is difficult to recruit teachers who have taught all their lives in a self-contained classroom to a team. Our own experience has been that there are more than enough applicants for every team-teaching program. It is clear at the moment, therefore, that people will join hierarchical teams. They will also accept a variance in salary according to responsibility. They recognize the unusual possibilities for more effective teaching that are present in a team-teaching organization.

Planning for Teams

When a teaching team begins to plan its program, the first discovery it usually makes is that the standard curriculum materials will not do the job. When people of widely varying talents are responsible for a large number of children, the possible methods of class presentation and the opportunities for grouping are virtually unlimited. This can be a happy discovery for some teams. It gives them a chance to become more creative in their thinking and to revitalize the existing curriculum offering. Nevertheless, the problem of curriculum reconstruction has, in some cases, exhausted the team's effort to the point where it disbands. How can this be avoided?

The answer is clear. The team must have time prior to the instructional phase to get together and work directly on problems of curriculum reconstruction. Many teams have used the summer for just this purpose. In addition, it is extremely helpful, if not essential, to bring in curriculum specialists as resource people for the team.

Although it will probably be the member of the team who is most skilled in each subject who will make the original presentation and take responsibility for planning the lessons, the other teachers will also be present. More often than not, they will have the responsibility for carrying through or following up in small groups the principles that have been suggested in the large group lesson (*8*).

Once a team has been set up, it immediately becomes apparent that this type of organization does not fit into either the traditional departmentalized program of the high school or the self-contained organization of the elementary school. For one thing, all classes in the same subject must be held at the same time. Also, the teachers on the team must schedule regular periods when all of them can meet to make decisions during the day. With good planning, this is usually not difficult.

Pupil progress is reported by the usual means, parent conferences or report cards. In the elementary school, however, it seems that parent conferences are more popular, while the traditional report card is favored by the secondary teams.

It is often claimed that team teaching provides answers to the current shortage of qualified teachers and the perhaps perennial shortage of time and funds for specialized instruction. In the long run, this may be true. But setting up a new team-teaching program, as many schools have found, is expensive in time, space, and money. Moreover, throughout its existence, the team-teaching organization will probably continue to cost more than either the self-contained classroom or the departmental type of organization. Why? Simply because more and more varied types of curriculum materials are needed. Audio-visual aids and equipment must be purchased for the large group meetings, and special subject materials are needed for the wide variety of pupil groupings possible under a team plan. It must be recognized, however, that this increased expense means that a better education is being provided for each individual child.

The cost of bringing teachers together for planning, either during the summer or after school hours, is an additional expense which is absolutely necessary if this type of operation is to succeed. One of the unfortunate things that is happening throughout the country is that boards of education are giving the go-ahead for administrators and teachers to begin team teaching, but are refusing to supply these teams with the necessary resource people and the necessary equipment. If this continues, the number of failures in team teaching will far outweigh the successes, and a promising idea will be killed before it has been fully explored.

Through continual study of the possibilities of team instruction there will undoubtedly be a modification in our present school buildings. It is obvious that most of our high and elementary schools are not equipped for team teaching. Teams must have large spaces for meeting with large groups, medium-sized spaces for medium-sized groups, and small spaces for small groups (and, hopefully, student booths where pupils can receive instruction from a single teacher or from such automated devices as teaching machines, closed-circuit television, tapes, or records). It is true that a team can limp along without proper facilities, but this type of block in the early stages of team organization may be the crucial one, leading towards ultimate failure. Boards of education must weigh all these expense factors against the promise of an improved education for their children.

Personality and Team Phases

Not all teachers can become equally good team teachers. Some teachers take naturally to team instruction; they enjoy working with their colleagues and may do a far better teaching job than ever before. Others, even though they may approve of team instruction intellectually and may have been eager to join a team, find in practice that they cannot fit in and work harmoniously.

In some cases this difficulty may be only temporary—a result of the unfamiliarity of the team method and of the special tensions that come with any new program. Team members educated in the tradition of the self-contained classroom, in which each teacher has absolute authority, may find it painful to accept direction even from a colleague whom they deeply respect. Interestingly enough, the team leader often feels uneasy in this situation, too. For many new team leaders, their position of authority and the prospect of not teaching all the time appear to cause anxiety and guilt. These teachers tend to overload themselves with teaching assignments and other responsibilities. They may also begin by dealing with the other team members as equal to them in ability and authority, thus making decisions difficult.

Empirically, it seems that a teaching team becomes genuinely functional when it finally faces its central task, the education of the children in its care. What usually happens is that everything is delightful in the beginning, although the team members are somewhat concerned about the amount of time that has to be spent in committee meetings before they can come to basic decisions. This period ordinarily passes quite quickly.

Next, there seems to be a phase which might be described as "fencing." This is a period when people have strong feelings, both positive and negative, about their colleagues, but are still operating politely on a so-called "sophisticated plane." Most or all of the team members are now primarily concerned with their colleagues. This is the dangerous period. It is now that some of the team members may suddenly quit; in an extreme case, the whole team disbands.

Finally a time comes when the team members can speak together frankly and honestly. This usually happens after the team is well organized and not so involved with the immediate problems of scheduling and planning. Once a team enjoys this type of open communication, many of the fruits of team teaching appear. The members can argue with one another freely and productively. It is now that the team begins to operate creatively outside itself and to focus on its fundamental task, the teaching of children. For the successful team, the central question is, "If we operate in this way, will it yield the best results in pupil instruction?" Now the team members encourage one another to their highest output; there is a sense of adventure, and each person is stimulated by the others' imagination and thoughtful consideration of how to present the lesson content to the children in such a way that real learning takes place. Many teams that are operating at this optimal level express disappointment if asked to go back to either the self-contained classroom in the elementary school or the departmental program of the high school. The mutual respect, the continual and helpful support and evaluation of their colleagues, cannot be found in any other system.

Not all teams reach this high point. The realistic administrator knows this; he will follow his teams' operational history and be prepared for their possible failure. He will also know what he is going to do if failure occurs.

Absolute personal compatability is not essential to team teaching (*3*). Partial failures in terms of personality conflicts are seldom reported, and there are many teams that are operating successfully today without total compatability. But if we ask, "Should every teacher therefore be forced to become a team teacher?" the answer is obviously negative. To date, the strength of the American system of education has been its diversity. We must recognize the possibility that some excellent teachers will never work with any efficiency within the team structure. Those responsible for our public schools must ask themselves whether, in spite of this possibility, they should give themselves a chance to explore this new organizational pattern. Many have already decided to do so (*1, 5, 6*).

Ages and Nations

We are often asked whether children become confused or feel lost when working with so many other children in so many different groups. Our experience is that this is very rare, though it does occur. The reaction of children to continuous regrouping within the team structure also seems to be a very casual one. In fact, children often seem to find school more interesting in a team arrangement. The child who is socially immature but academically advanced does not appear to have emotional difficulties when he is placed in a learning group with older children for part of the day. From our observation, he is usually stimulated by this contact, even if he continues to rejoin friends of his own age at recess and in large group activities.

We have also been asked about the emotional effect on the children of having so many different teachers. The fear has been that with a number of teachers involved, no one would really know how the individual child is getting on. Actually, we have found that four or five teachers who confer constantly can know a child far better than a single teacher. One of the most fascinating discoveries of team teaching is that just as some teachers perform far better on a team, so certain pupils seem to benefit enormously from having contact with several teachers rather than only one.

Even where there is good understanding of the basic concepts involved, educators do not always realize, however, how much time, energy, and intelligent action is needed to set up a good team—teaching program. Often it is just those schools and regions which are least qualified and least well equipped which are most apt to accept a new idea without reservations. This is partly due, of course, to the desperate nature of their situation. There is a real danger that educational administrators in underdeveloped areas will attempt to introduce team-teaching programs without proper knowledge, preparation, or resources.

Within our own American school system, the effects of such action could be quite serious. An even greater danger is that our friends in the remoter parts of the world—in Africa and South America, for instance—might be tempted to set up programs based on a misunderstanding of the concept of team teaching. To take just one example, countries where there is a great shortage of certified teachers might look upon team teaching as the answer to their problem, not realizing that one basic principle of team instruction is the maintenance of minimum standards of training for each of the team members. A team leader, for example, should have had five or six years of college and considerable teaching experience, while even the interns should be graduates of liberal arts colleges. Not knowing this, it would be easy for governments to set up "team-teaching" systems in which one barely certified teacher would have the job of supervising many less trained or even untrained people. The results of allowing such a team to educate large groups of children could well be disastrous. Not only would these programs fail locally, but the reports of such failures would tend to bring the whole concept of team teaching into international disrepute.

Evaluation

No scientifically valid evaluative study of team teaching as a whole has yet been published. What is more, it is unlikely that any such study will ever be made, at least within the next ten or fifteen years. We cannot treat our children as experimental guinea pigs, and school personnel and parents are simply not going to allow statisticians, educational psychologists, and behavioral scientists to set up the kind of controlled conditions in our schools that would be necessary if we are to have rigorously valid answers to all the vital questions now being asked about team teaching. Several school districts which have already established team teaching patterns, however, are doing their best to evaluate their results.

At the present, for example, the Washington and Longfellow Schools in Madison, Wisconsin, in cooperation with the University of Wisconsin, have accepted a contract from the US Office of Education for the evaluation of team teaching at the elementary school level. The research design will try to answer such questions as these: Does team teaching produce significant differences in achievement in various subject areas? What happens within the classroom in terms of teacher-pupil communication? What are the emotional effects of team teaching? The results of this study will not, of course, be published for some time, and there is some question as to whether it will provide any basis for definitive conclusions. No single project in American education can hope to do this. It should, however, produce some very interesting data, and it may also suggest some important modifications of the instructional team as we now know it. Team teaching, if history repeats itself, will not remain in its present form (*2*, *4*).

In the meantime, boards of education will be making decisions about team teaching, based on their knowledge of their own schools and the limited data now available. It is obvious that these decisions will be difficult ones. But American education has not in the past been unwilling to take chances. Each year, additional school districts are taking the calculated risks involved in setting up a team teaching organization (*1*, *5*, *6*) and thereby increasing the opportunities for evaluation. Just as we owe many of the important discoveries in education to the pioneering public schools of the past, so we may have reason to be grateful to these explorers of the future.

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Higher education—perspective from Southeast Asia

AMERICANS HAVE BECOME acutely, almost pathologically, conscious of their national "image" abroad. One of the authors of *The Ugly American* reported the arrival of more than 8,000 letters from "all kinds of people in every conceivable occupation," wishing to do something about "the posture of the United States in foreign affairs," and the best-selling sequel, *A Nation of Sheep*, was supposedly directed to the millions of Americans at home who were distressed about how they appear abroad. The one question which the returning American from the Orient must anticipate is, "What do the Asians have to say about us?"

The answers to this question appear to be almost as varied as the visitors abroad, but one theme which runs through many of the published answers stresses the significance of the impressions created in the minds of the intellectual elite, especially in the countries of Asia. Soon after the close of World War II, James Michener startled the Western world with his *Voice of Asia*, a straightforward, hard-hitting account of the outlook of Asia's new elite toward the West. It was Michener's contention that we might have a second chance in Asia, provided certain basic principles were observed, including a cultivation of the friendship of a "relatively few key Asians," the educated elite.

Nervous Self-Consciousness

This same message, with only slight variation in tone and key, has appeared in the writings of other American observers of the Asian scene. Even our US Information Service has seized upon the same theme, and has sought by means of public opinion research to obtain quantitative ratings of America's advancing or declining prestige in the eyes of Southeast Asian leaders. The absurd limits to which the concern for our image abroad may lead us, justifying to a degree the reputation of "a nation of sheep," are illustrated in the widespread acceptance of accounts supposedly originating among the Southeast Asian leaders. An extreme example is the reported story of the evacuation of all the inhabitants of a Thai village for whom a group of handpicked officials and their families were substituted so that the American anthropologists studying the community might obtain the sort of data the Thai government wanted them to have.

The time appears now to have arrived when Americans need to focus at least as much attention on the images which the Asians have formed of themselves as those they have formed of us, significant as the latter assuredly also are. The sublime assurance that the American, whether ugly, quiet, boisterous, affluent, or assured, is nevertheless a matter of consummate concern to all the world reflects a type of national conceit for which we are already too well known, and from which we need to escape.

Assuming, however, that the universities and colleges of Asia must generate most of the national or regional models for the immediate and indefinite future, some insight into the developments within this area becomes a matter of world concern. The literature on this topic is strikingly meager, at least in the English language, and this fact alone affords some justification for the attempt to glean from a single year's experience in Southeast Asia, chiefly in Thailand and more briefly in Malaya and South Vietnam, a few general impressions regarding higher education as it appears to function and as it is conceived by educators in that part of the world. Most of the direct quotations offered here were made by anthropologists and sociologists of the region at a week-long seminar in Bangkok, by university administrators conferring in Kuala Lumpur, by government officials and university students in seminars at Dalat and Saigon, and by Western and Thai social scientists in Bangkok and other parts of Thailand.

Eastern Practicality

Contrary to the still widely held impression of Eastern preoccupation with spirituality as opposed to the materialistic concerns of the West, among the most striking developments in Southeast Asian higher education during recent years has been the increasing emphasis in all these countries upon the practical or applied disciplines. Particularly in the newer institutions, faculties of architecture, agriculture, business administration, engineering, public administration, social welfare, and vocational education, for example, have been added to the traditional faculties of liberal arts and law. The tangible advantages to be derived through improved housing, greater yields in agricultural crops, heightened efficiency in government and business, better media of communication and transportation, and diminished suffering and disease are too obvious to be disregarded; and throughout the region, new curricula stressing science and technology are being added even in the older universities.

The relatively low standard of living for the great mass of people in Southeast Asia necessarily imposes extra pressure upon the institutions of higher learning for the introduction of technological curricula to assist in improving the level of income. Both the high death rates and the even higher birth rates impose contrasting technological problems which neither the governments nor the universities under their control can possibly ignore. Even in Thailand, which enjoys a relatively higher level of living than most of its neighbors, where food is still plentiful and no one need starve, a military government feels impelled to direct "the elephant's share" of its budget for higher education into the applied and professional fields and the natural sciences basic to them. The allocation to the arts, humanities, and the social sciences of a relatively minor portion of the budget is, of course, by no means peculiar to Thailand or to Southeast Asia in general, and considering the limited financial resources available for education in any of these countries, governmental insistence that purely practical considerations, such as increasing production and reducing disease, must take priority over all others becomes readily comprehensible.

The leisure and the economic reserves, which are the essential requisites for the establishment of institutions of higher education in any country, are, of course, only gradually emerging. The universities themselves, with only one or two exceptions, are of recent origin, and there simply has not been time for the development of the scholarly traditions ordinarily associated with such institutions. Southeast Asians pride themselves on their pursuit of the wisdom accumulated by the sages and seers, but this does not ordinarily embrace the range of secular knowledge which the modern university seeks to provide. The University of Santo Tomás in the Philippines can trace its beginnings back to the missionary zeal of the Spanish friars in 1611, and the University of San Carlos may claim 1595 as its date of founding; but the expansion of their academic offerings to the scope of modern universities is a relatively recent development.

The earlier neglect of higher education throughout Southeast Asia, amounting in some instances to positive opposition, has frequently been attributed, of course, to the fixed policy among the colonial powers of retaining positions of power in the hands of their own citizens and hence excluding their colonial dependents from any but the more menial positions as clerks or artisans. Despite valiant bootstrap efforts, reinforced by financial assistance from the United Nations and individual states, both East and West, the general level of literacy has continued to be low throughout Southeast Asia, even after political independence has been achieved. Thailand, which has never suffered from political domination by a colonial power, has only recently increased its literacy to 66 per cent of all persons ten years of age and over, whereas the Philippines, whose history of more than four centuries of colonial history ended less than 20 years ago, claims a literacy rate of 75 per cent. Without the benefit of a deeply implanted tradition of universal literacy upon which to build, there are likely to be neither the public funds nor the disposition to support institutions of higher learning.

The conception that proficiency in the arts and letters is an exclusive heritage of a small, hereditary elite dies slowly in any culture which remains predominantly peasant in its outlook. However significant the inroads of industrialization and urbanization have been in recent years, it must be conceded that the major orientation throughout the region is still overwhelmingly rural and consequently indifferent to, if not actively suspicious of the new ideas which might be expected to emanate from the urban colleges of liberal arts.

Educational Magic

Despite an understandable hesitation about accepting all the disturbing influences which the free interplay of ideas may bring, higher education assuredly does possess a magical appeal throughout Southeast Asia. Confirmation of this impression is found in the widespread proliferation of degree-granting institutions —thus far most widely noted in the Philippines, but apparent also in most of the metropolitan centers of the region, where institutions claiming as many as 20,000 students have suddenly blossomed forth.

Quite naturally, however, in institutions so recently established, the formal structure frequently is given greater attention than the intellectual content. The emphasis, so familiar in America too, upon the external hallmarks of academic proficiency—on degrees and certificates without a corresponding regard for the circumstances under which they are obtained or what they mean—is not uncommon among young and relatively inexperienced institutions. The adoption of European or American models of organization, whether or not they are appropriate to the Southeast Asian situation, is particularly impressive to the Western observer. What goes into the curriculum, how it is presented, and by whom—these problems and many others relating to the operation of the universities and colleges are handled differently according to the orientation in Western colonial procedures which each region may have experienced. Despite widespread anti-colonialism, usually most pronounced among students and graduates, higher education in Malaya, Hong Kong, Singapore, and Burma follows the British pattern; in Indonesia, the Dutch models still prevail; in Viet Nam, French traditions are followed; and in the Philippines, the dominant themes are Spanish and American. In Thailand, where direct precedents of a colonial regime are lacking, the models of neighboring French and British dependencies were drawn upon extensively during the first half of the present century and still play a significant role, although since World War II our international assistance program has accorded preference over all others to American educational procedures.

Still another of the unintended consequences of colonialism in Southeast Asia is its greater emphasis upon social science research as compared with the regions spared that experience. Thailand's relatively uninterrupted history of political independence has doubtless strengthened the ethnocentric dispositions to be found within any culture and at the same time has weakened the tendencies toward self-examination. The simple necessities of administering a people with unfamiliar practices and values has compelled the colonial powers, on the other hand, to seek an understanding of these customs through research. It is no accident, therefore, that the nations of Southeast Asia with the longest records of colonialism have also proceeded the furthest in building a solid structure of social science research materials, whereas Thailand, without such a history, has made relatively little progress in this direction—perhaps not an unreasonable price to pay for the privilege of political independence.

The Thai Experience

The experience of Thai universities may be used to illustrate even more vividly some of these same trends and principles. For example, the reluctance to break with tradition and established authority, inherent in the nature of every institution, assumes somewhat exaggerated proportions in the universities of Thailand. The fact that all of the Thai universities are state institutions, directly accountable to the prime minister, further accentuates the political conservatism of a predominantly peasant culture, a conservatism which appears to run through the entire administrative structure of Thailand in spite of the external hallmarks of Western democratic procedures. Thai educators who have become acquainted with European or American practices find it difficult to readjust themselves to the prevailing rigid bureaucratic control with its interminable delays demanded by administrative protocol.

Persons grown accustomed to a system of delegated responsibilities and direct associations find little justification for the requirement that even the slightest innovation must first be approved by the administrative elite or that any constructive suggestions for change must appear to have originated only at the top. To the younger members of the faculty, it seems a wholly unwarranted invasion of their proper functions to be compelled to refer any significant changes in the curriculum to a National University Council, of which the prime minister is the chairman, consisting of the "top administrative brass" in national education as well as the rector and two additional representatives from each of the universities. Only such changes as seem perfectly "safe" and least likely to ruffle the sensibilities of so formidable a council are likely even to be proposed.

The tendency in formal education to stress traditional values is further reinforced by the strongly bureaucratic organization of the entire governmental structure, of which public education, including the universities, is an integral part. The vertical orientation of life in Thailand, with a predominant "flow of social and political influence from top to bottom, with very little feedback in the upward direction" (*1*), has meant quite inevitably that university instruction follows a similar type of control. Each level within the educational hierarchy, being dependent upon those above for acceptance and promotion, seeks to reflect the viewpoint which is known to be in favor with the superiors and to resist ideas clearly out of favor. This quite naturally lends support to academic conservatism insofar as those in the superior positions are older in years and have acquired their status by following the path of conservatism.

Stifling by Deference

The deference invariably accorded in academic circles by the younger to the older and by those with less status to those with more is so marked that it does not need to be pointed out by the Thai themselves, although some of the faculty cannot forbear to do so. "Did you notice," I was asked by a junior member of a neighboring national delegation to an international conference, "that no member of the Thai contingent was willing to express himself at all on this issue until Prince S had stated his viewpoint? Once it was clear which way the wind was blowing, they were quite willing either to give their support or even to express dissident opinions, depending, I suppose, upon what place they occupy in the academic hierarchy." This particular restraining influence upon constructive change is not, of course, confined to Thailand or to the rest of Southeast Asia, nor is it restricted to academic institutions.

The European pattern of separate faculties, such as arts and letters, law, medicine, and engineering, all loosely bound together by a University Council comparable to the National University Council, persists in the face of fairly obvious disadvantages. Symbolized in one university by the encircling barriers of masonry walls or impassable klongs, the existence of such independent units of instruction involves the inevitable duplication of staff, courses, laboratories, classrooms, and libraries. In regions where all educational facilities are at such a high premium, this seemingly blind deference to the past is all the more difficult to condone, particularly by those lacking any significant vested interests in the existing order. As one Western-trained faculty member expressed it:

> All we can do is to laugh at the outrageous absurdity of the presence on the same campus of half a dozen different collections of books, euphemistically labelled libraries, duplicating each other in certain areas, but all of them woefully inadequate. It is lucky we have learned to be philosophical about such things in the temper of *mai pen rai* (never mind; it

doesn't matter) or we could be pretty unhappy.

The students also, of course, are involved in the same dilemma—on the one hand, of customary and sentimental attachments to the old order of educational procedures, which they have known from early childhood, and, on the other hand, of attraction to the new practical skills and techniques promised by Western educational procedures. One sees students struggling to record in their notes as accurately as possible the exact words that the professor utters and then at examination time striving just as valiantly to reproduce from memory what they have previously recorded. It is not, of course, that this is unique to Thailand or Southeast Asia, but the system of rote learning at the college level appears even to the scholars of the region to be more deeply entrenched in the habits of both students and professors alike than it is in the West, and the older generation of scholars is by no means convinced that this is a serious handicap.

Laughter and Decorum

The practice among students of standing at attention when they observe a professor passing in their vicinity and then bowing respectfully, a practice which is not a little disconcerting to a visiting American professor who feels impelled to return all such gestures, symbolizes, however, the outward form of respect which traditional scholarship demands. I have been assured by some of the more rebellious among the students that their private inclinations and comments regarding some of the faculty are anything but respectful, but the social pressures nevertheless keep them in line. A deeply rooted sense of humor, reinforced no doubt by the quieting influence of the Buddhist religion, obviously serves as an effective antidote to the heavy formalism and conservatism of much of Thai higher education. My own amazement at the gales of laughter during university lectures dealing with such serious topics as international law or accountancy was partially dispelled by the casual remarks of a wise Thai colleague, who had spent a number of years in graduate study in America:

> Where in America—or elsewhere—would you encounter so much laughing in a college classroom? It is as though the Thai students were constantly looking for something to lighten what might otherwise prove to be a dull and burdensome experience. And no matter how dull or boring the lecture, they will find something to laugh about. It almost seems that the duller the lecture is, the more they will find that is amusing.

Increasingly the conflict between traditionalism and utilitarianism in higher education in Thailand is being resolved by slow and sometimes imperceptible shifts in the direction of the latter. Not that there has been or is likely soon to occur any drastic or revolutionary changes in educational philosophy or methods, for in Thailand even revolutions occur with due regard to proper form and appearance. Nevertheless, professional educators, students, and the educated public are being compelled to take account of pressing practical problems for the solution of which higher education in one form or another must be sought. Just as pure research is a luxury which newly developed nations can rarely afford, so also the retention of hallowed traditions, as ends in themselves, becomes too costly to support in a world of extremely rapid change.

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For the Record

On supporting civilization

There is probably more thoughtless (even if genuine) piety than muscular purpose in our often asserted notion that education is intended to develop *all* our potentialities. It is unlikely that we seriously want our schools to spend much time on the facilitation of cherry-stone carving, regardless of a youth's aptitude for it; and we actively look to the schools for the *stifling* of those propensities for delinquency that are rarely absent in any of us. On the other hand, although we generally are in at least verbal opposition to the idea that education must be the instrument for furthering the interests of special groups, including the abstract state, we are not infrequently seduced by this proposition. It is an understandable state of affairs, of course. In a world of polarized conflict of the most dramatic and vivid sort, there is a powerful tendency for one party to focus all its resources on maintaining and enhancing its own position. Education is a major national resource, and its enlistment, sometimes in subtle ways, in the pursuit of conflict-given "national goals" is neither unexpected nor necessarily wrong in some moral or political sense.

It is, however, dangerous—dangerous in that it can inhibit and impede the processes that define the very thing that makes the conflict worthwhile. The American dream, which has an appeal far beyond America's borders, is of a civilization in which individuals are the criteria of value, in which nothing is more precious than the responsible distinctiveness of human personality. Indeed, civilization is conceived as a condition under which there is an enlarged opportunity for the flowering of individuality and in which the disciplined flowering of personal distinctiveness is the great strength of the state. In such a faith, the business of education is that of making citizens, and the hallmark of the citizen is his ability to apply an informed and critical intelligence to human affairs. It is understood that the capacities of individuals will differ, both in their contours and their extent, for the acquisition of information and for the exercise of critical thought; but in so far as he is able, the citizen, the participant member of civilization, must know something of himself and his world and be able to think about them in relevant ways.

It was this vision of the educated citizen that seemed to animate Representative John E. Fogarty of Rhode Island when, during the 87th Congress, he began a long speech on the floor of the House with this declaration:

> . . . there is a pressing need today for Federal legislation that will build up nationwide support for the arts and humanities, on a basis comparable to the support that is provided in other areas, such as science and technology. Progress in the arts and humanities is essential to true national strength.

Congressman Fogarty then proceeded to present "A Bill to Establish a National Institute of the Arts and Humanities," which he called the "Cultural Development Act of 1962." Introduced late in the session, his proposal was not acted upon, but it remains a remarkable item despite its neglect in the press of legislative business.

It is not long ago that such a notion would have been regarded as a kind of governmental heresy, irrelevant to if not in actual conflict with the national interest. Ours is an age of science and technology in which safety and survival are dependent on the position of the United States and the West in a seemingly endless technological race for world hegemony. Support for the natural sciences makes perfectly good sense because the natural scientist clearly has something which the nation urgently, desperately needs. But support for the arts and humanities represents a drain on the public till, an improper catering to the tastes of a particular group, and, since artists and humanists deal willy-nilly in various forms of social criticism, an invasion by the state of that sector of life in which the necessary debate that is an integral part of civilization can most readily find expression.

Obviously, these reasons for concern over governmental support for the arts and humanities are very different, and they are all, to some degree, quite respectable. Nevertheless, Congressman Fogarty's *idea* (not necessarily his *format*) must not be dismissed out of hand on the ground of any one of these criticisms or of their sum. For the disciplines and enterprises of art and the humanistic studies are the very stuff out of which a critical intelligence applied to human affairs is built. There is a real sense in which mathematics and the natural sciences, now so richly underwritten by the state, are also manifestations of the human mind in its most triumphant mode, and they can not be properly divorced from the education that insures and enhances a civilization. But the experience of both the Soviet Union and Hitler's Germany must give us pause. Under both totalitarianisms, the natural sciences thrived, and with state support, technology registered impressive and authentic achievements. Under both, the arts and humanities displayed no comparable growth or gusto. Contributors to civilized freedom, their fate under despotisms is to wither, to degenerate into sheer entertainment, and to become subject to ruthless suppression. From the point of view of a dictatorship, this is as it should be: If anything is ruinous to totalitarian power in the long run, it is the universal application by an educated citizenry of critical intelligence to human affairs. Natural science can be encouraged without contributing to such a threat; the humanities can not. The QED is obvious.

For a nation, then, that shares the dream of civilization, public encouragement of the arts and humanistic studies is clearly mandatory. A major problem in providing for this kind of encouragement was stated in 1961 by Justice Goldberg, then Secretary of Labor, at the time of his arbitration of labor difficulties at the Metropolitan Opera. He pointed out that,

> individual benefactors and patrons just aren't there as they once were. Just as importantly, as we become more and more a cultural democracy, it becomes

> less and less appropriate for our major cultural institutions to depend on the generosity of a very few of the very wealthy.

Certainly, the cost of producing art and humanistic scholarship and making them accessible has always far exceeded what those who need these cultural commodities could afford to pay. There is no sign that this state of affairs is likely to change, and tax policies and the points to which Mr. Goldberg alluded make it less and less probable that the familiar (and large) deficit can be absorbed by private benefactors.

Similarly, the particularity of appeal in the specific manifestations of the arts and humanities must be considered against the central aim of a civilized education. An amusing exchange of letters in the *Times* of London is relevant. One correspondent, reacting to an English proposal regarding the Arts Council, wrote,

> I have a strong objection to having taxes used for any artistic purposes. I am sure that I cannot be unique in taking no interest in art of any sort and in thinking that those who enjoy its harmless attractions should themselves pay for their enjoyment.

He was promptly answered by another correspondent, who said,

> I sympathize with (these) views on the state patronage of art, for I, too, am a member of a small minority. . . . If he (the previous letter writer) will reflect on my tax contribution to atomic weapons, while I reflect similarly upon his contribution to art, then perhaps we may both rest easy. . . .

True enough, the public financing of defense has always been regarded as a state function, whereas the support of art has not. Yet the point remains: In a world in which the well being of the whole is so firmly based on the health of its parts, the public as a whole must stimulate ventures which may directly and immediately *appear* to serve only minority interests. We expect Kansans to share in the cost of the Coast Guard and both the childless and the parents of children in private schools to contribute to the expense of public education; and with a declining number of exceptions, these illustrations of a principle seem broadly, responsibly, and understandingly accepted.

There remains the enormously important issue of state censorship. One finds it hard to forget that it was not in a totalitarian state but in democratic France that a Minister of Culture recently barred from the state-controlled radio and TV any persons who had signed a leftist petition bearing on the Algerian war. If the government pays the humanistic piper, will it not be able to call his tune? The danger is real and must be guarded against, and it is this basic consideration that makes the *technique* by which the state relates itself supportively to the arts and humanities of the greatest moment. But the *idea* of such support, especially when it is understood within the context of that education essential for the maintenance and enhancement of civilization, is in no way invalidated by difficulties of method. A part of our American tradition has been our ingenuity and good will in finding effective ways to accomplish necessary ends. There is no reason to feel that our tradition will be broken here, once we have put our minds to a problem of high urgency.

Besides, there are promising precedents. The British experience with the Arts Council and Canada's successful adaptation of it to a federal system of government underscore the possibility of support without control. Our own depression-born Federal Arts Projects of the 1930s, undertaken for the economic relief of artists, generated some substantive enterprises of great excitement and merit, often reflecting that application of critical intelligence to human affairs that is the essence of civilization. There were no serious instances of governmentally imposed censorship or control. Our schools themselves and many of our most famous colleges and universities are state supported, but despite episodes of great ugliness and breaches of the democratic faith, they are, by and large, genuine citadels of free inquiry and untrammeled thought. The evolving of a method for accomplishing a centrally necessary end hardly seems impossible.

The important thing, of course, is that we keep our eyes clear and firmly focused on the fundamental principle: Civilization is dependent for its defining ingredient, the application by individuals of critical intelligence to human affairs, on the vigor and liveliness of its arts and humanistic undertakings. There are few things more likely to promote the general welfare than the public endorsement through state support of these enterprises.

—EJS

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Science for nonscientists: Criteria for college programs

EACH AGE HAS ITS great intellectual problems; in retrospect, they help us to characterize the age itself. And on every list of such characteristic problems, from the thirteenth century to our day, science has had a prominent place. The focus has been in turn on the ontological status of scientific knowledge, the evidence of science in support of theological truths, the rightful place of our observable world in the rest of creation, the usefulness of positive knowledge for the betterment of man, the subordination of man to machine, the implication of the Darwinian and the Freudian dogmas for the study of society and of human nature.

But such problems are never solved and disposed of. We have inherited all of them. They are diffused through our contemporary discussions like overlapping echoes, more or less faint but persistent. Against this backbround, we now hear the new and louder themes—those of science and public policy, science and the revolution of rising expectations, science and the threat of war.

Snow's Forgotten Point

The kind and amount of science instruction that should be given to nonscience college students is, at least on the surface, one part of a new major theme, popularly defined by the phrase, "science and the separation between the two main elements of traditional culture." There are many who urge changes in education to make more science available in a more meaningful way. The provocative and persuasive book on *The Two Cultures and the Scientific Revolution* by the redoubtable Sir Charles Snow (5) is frequently invoked in such sessions—and justly so, because it was he who was most effective in spreading awareness of this characteristic problem of our age. Therefore it will help if we remember a basic fact that is too often forgotten. His book is only secondarily a plea for the intellectual betterment of nonscientists, or for a closing of the "gap" between scientists and others. Primarily, the book is a political utopia, though a disguised one. The "gulf of mutual incomprehension" between the two polar groups, "literary intellectuals at one pole; at the other, scientists," is, he believes, "disastrous for a living culture"; but the disaster he has in mind is most threatening in the realm of geopolitics.

This does not refer simply to the increasing competition from the Soviet world. There is a second large and widening gap, that between industrialized rich countries, which are getting richer, and the poor countries, which are getting poorer. We are told that *if* we can speed the scientific revolution all over the globe, we shall see our way through the three major menaces before us, "H-bomb war, overpopulation, and the gap between the rich and the poor." If we export enough capital and trained men (scientists and engineers), we can hope to reach a utopian state of international tranquility. It is for *this* reason that the first gap must be bridged: We must change our culture in order that it may be more conducive to turning out enough intelligent administrators, educators, etc., for they are needed to operate the vastly accelerated worldwide scientific revolution without which we are not likely to survive the major threats. In the end, the theme of "science and the two cultures" turns out to be not separate from, but one part of, the *other* new themes of science and public policy, science and the revolution of rising expectations, science and the threat of war.

Bases for Decision

So runs Sir Charles's argument. I point this out here because, before we think of redesigning curricula, we must first find a basis for our decisions. That is, we should be very clear in our minds what effect we really want to produce. For example, if we agree that our main concern is that countries such as India need more calories and kilowatts in a great hurry, then we might also ask whether there are more effective ways of bringing this about than by teaching the second law of thermodynamics or quantum mechanics to bewildered arts freshmen.

To be plain, I think that Sir Charles is right. But he is right in a very specific context. His is not a weighty treatise directed primarily to scholars and scientists; but, as was the case with Galileo's main books, it is a propaganda pamphlet on behalf of an important cause, to be acted on by present and future civil servants, deans, and other captains of society's destiny. I believe that we, too, as mere scientists and educators, can and must accept the recommendation to increase the scientific literacy of nonscientists. But if we do so, it must be because we have a rather different, complementary set of ends in mind. It may not be entirely to our credit, but it is a fact to be reckoned with that we are better at alleviating individual ignorance than at averting global catastrophe.

What, then, can be our own valid reasons for presenting science to the nonscientist, and what are the consequences that follow from these reasons?

Here we should start with the distinction between the two general functions of science. One is, through an increased understanding, to help us *orient* ourselves, as individuals and social groups, to our external surroundings, to one another, toward our own internal capabilities and deficiencies. The other is to help us *change* our external environment, our relationships, our capacities, and our deficiencies. There are, of course, valid connections between these two functions. Sir Charles, for example, rests much of his argument of the hope that if the orientation function is well handled in the classroom, the change function will be greatly strengthened. I share his hope; but whether we share it or not, our main role in the classroom is to attend to the first of these two functions of science.

Let me continue to be general before being specific. The total orienting process of a young student in college, it seems to me, has at least five goals. If he is to emerge as an educated and sane person from our educational institutions, the student should be well on the road to recognizing which are his own talents, whatever they may be; second, he should know enough about his physical home, this universe, not to feel either overwhelmed by it or a total stranger in it; third, he should know how to be in fruitful relationship with his fellow men; fourth, he should know what the past means and what the probable future may be; and fifth, he should know the difference between, and the relative functions of, his mind and his soul.

Goals and Science

Obviously, the study of science can't contribute equally, or even prominently, to every one of these goals. But my fundamental claim is that the student who will not go on in scientific studies can and should have science courses which attempt to contribute meaningfully to each of these general goals of education. This does not mean in the least that such courses have to be soft and simple; on the contrary, precisely because of their ambitious goals, they surely will have to make as taxing demands on the student (and, it should be added, on the instructor) as any he will ever encounter. Thus, to do justice to the first goal would mean seriously challenging, helping, testing, and watching the student, to enable him to discover his abilities in scientific work, including work in the laboratory, whether or not he himself has known of any such abilities. The second goal implies the all-but-impossible attempt to teach him, in the limited time available, enough basic and substantive material to show that the natural universe is fundamentally knowable. To do this right would require *at a minimum*, in my view, something like this: a year of selected work in physics, with the elements of the calculus developed in a correlated course or as one goes along, together with selected parts of astronomy and chemistry, and then a second hard year of selected work in chemistry and biology.

The third goal implies that the student should hear and read at least occasionally about the social activity called science (which is not at all identical with the textbook content also called science); indeed, in such a course, we have a striking opportunity to show the plurality of roles played by the individual as a transformer of accumulated knowledge, as a member of a chain of teachers and students, as a collaborator in teams and social groups.

The fourth goal implies that such courses will not shrink from showing at the proper time that science has its historic tradition as well as its characteristic way of growing and, as it were, of anticipating the future. For science has grown, on the one hand, not by destroying old knowledge and by rebuilding on totally new lines, but rather like a tree, ring by ring, where the inner layers are invisible though still responsible for the strength of the whole structure of which only the outer part is seen. On the other hand, scientists differ from most other scholars in the degree of their optimism and future-directedness, a quality that at its best is the proper antidote to the existential despair so fashionable elsewhere.

The fifth goal would require us to convey to our students, at least on occasion, what has been thought to be the philosophical meaning of scientific knowledge. This is often said to be an unnecessary preoccupation, particularly by scientists—with the significant exception of the really great ones from Aristotle to Kepler, from Newton to Bohr and Heisenberg.

Orientation vs. Training

It should be immediately obvious that I am heading into sharp opposition with one type of science course that is so often the only one open to the nonscience student—the introductory departmental specialty course, directed primarily to an audience which is expected, correctly or incorrectly, to make science its profession. In such a course, the orientation function is necessarily a secondary one. The classroom usually resembles a training ground at the foot of a large mountain that is to be conquered stage by stage by selected students in later years. Here, next to the boy who has large, high-altitude lungs and who was born with climbing boots on his feet, there sits by administrative decree the eternal lowlander, the stolid farmer, the congenital subway rider, the dreaming sailor, and even the adventurous deep-sea diver. Silently, they listen and move through the mass of technical instructions guaranteed to pay off in the exhilarating climb to the top in which, alas, they will never take part.

Let us grant quickly one advantage the narrower training course has: We know how to run it for the benefit of students who really want the training—or at least we think we know, and we have learned to be satisfied with little. Almost any instructor is expected to do a tolerable job when given any one of the great number of similar, ready-made textbooks and a ton of laboratory equipment. The orientation course, on the other hand, is very much more ambitious, has not the backlog of folklore, of texts, of teaching tricks, of experienced staff, and is usually asked to live up to very high standards of performance. I suspect it is as hard at this time to give a truly successful orientation course as to give an altogether bad training course. And I want to be clear about the converse point. Consider that a nonscience student is forced to choose between (a) a specialty training course that is not really designed for his needs but is run successfully for the climbers and gives extra attention to the nonclimbers, as against (b) an orientation course designed for nonscientists but run poorly, perhaps with inept, pompous, or diffuse excursions that displace the center of gravity from science to something else: Which should the nonscience student choose?

I have no doubt that he should choose the first. I would put him into the course for preprofessional scientists under a Philip Morrison or an Edward Purcell rather than spoil the possibility of his later discovery on his own of the ways in which science conduces to the more general goals of education. In such a training course, at its best, it can happen that, urged on by inspiring instructors, even the student with flat arches or with webbing between his toes will, during training exercises, climb some smaller hills to his own great excitement and benefit.

Yet this is not the choice that usually exists. Difficult as it may be to do the orientation course well, the other kind, even with its simpler and narrow aim, is done no better. Taking the country as a whole, the teaching of introductory science, both to science students and to nonscience students, is poor.

Hierarchy of Interests

The reason is not difficult to discover. Interest in teaching, particularly on the elementary level, runs usually rather low in college science departments. It is a fact that an active scientist can teach only one large introductory course or, at most, two medium-sized, intermediate-level courses and still hope to keep up in the rapidly expanding field of his research work. It is also a fact that in most university science departments, the hierarchy of interest is in descending order: one's own research, research collaboration with colleagues and post-PhD staff, the research supervision of graduate students, the teaching of graduate students, the teaching of concentrators in middle-group courses, the teaching of departmental concentrators in elementary courses, and—far, far at the end of the line—departmental service courses for nonconcentrators (*4*).

For the college as a college, rather than as an institute for advanced study, the importance of teaching does not diminish in the descending order cited above. But the reasons for this order are clear. The scholar in the humanities or social studies can speak even in his elementary lectures about specific topics on which he is doing his daily research work. In the exact sciences, this is generally impossible below the graduate student level. Moreover, the difficulties of running a course also run adversely to this hierarchy: Nothing is more unattractive to most active scientists than a course for hundreds of students who have little previous preparation and who may be initially without deep motivation for hard work in substantive science—a course, moreover, in which quantities of teaching assistants (often those who, for some reason, received neither a fellowship for full-time study nor a research assistantship for work on their own thesis problems) have to be cared for and guided; not to mention the obligation to provide for and run lecture-demonstrations which invariably add much preparation time to each lecture, or, worst of all, the necessity of writing one's own text and laboratory manual.

More tragic still to the prospect of good teaching and sound experimentation in the shaping of good science courses is the fact that the rewards offered by most universities and many colleges decrease as one goes down the list from research to elementary-level courses. It is all too well known that giving one's attention to introductory courses in science entails sacrificing research time and advancement opportunities, not to speak of status. The road to promotion, for example, usually lies through one's department of specialization and depends on the number and quality of recognizable research contributions, the number and temperature of one's graduate students, etc. Moreover, a research contract brings with it highly regarded benefits, including contributions toward faculty salaries.

Thankless Necessity

All these tendencies are in the same direction. Continually, more opportunities, more money, and more rewards are available for the nonteaching aspects of science. The duties of scientists to industry, government, and internal administration are increasing as science itself has been transformed from the activity of a few isolated academics to the new, high-powered, large-yield activity of widespread teams of interconnected research organizations.

I am not saying at all that there is now too much emphasis on and support for basic research. Far from it. Basic research is the lifeblood of science; without it there would be little reason to teach science at any level. I am also not suggesting that we deplore these developments which have done much to make science itself more successful than it has ever been. Rather, I want to warn that we should not underestimate the influence of these developments on the teaching of elementary science, a task which is relatively thankless and unglamorous, and which merely has the property of being utterly necessary.

In casting around for potential improvements, one naturally settles on the hope that college and foundation administrators will in time recognize the problem (which to a degree afflicts all teaching at lower levels), and will consider whether it cannot be handled with the classic tools appropriate to supply-and-demand situations. Just as the federal government heavily subsidizes scientific research, scientists, and their universities in order to assure the strength of the scientific research effort, so will colleges also have to invest openly and more heavily in science *teaching* in order to assure that it too is well done. As things stand now, the purposes of the college as a college are in many places losing out against superior competition. More and more, the primary loyalty of the profession is shifting away from the institution and toward the widespread community of like-minded researchers, from whom the greater excitement and greater rewards are coming.

To be sure, somewhat more money is beginning to be available for curriculum development work. It is really up to the beneficiaries and hopeful originators of good new ideas to give courage to their own college administrations and the foundations to come wholeheartedly into this field of support. Unless they act strongly and vigorously, I fear that this particular area of concern—science for nonscientists—will continue to come last. For it is clear how and where real support will go in the natural course of events. First of all, it will go into the big training courses for specialized subject-matter science. There is little doubt that the university biologists, chemists, physicists, etc., will each form one or more entirely separate, large groups, each containing weighty enough names of outstanding researchers, so that a few calls to the proper offices in Washington and New York will bring in the money big and fast. Some of these men will in fact work very hard at it, possibly just because they never before had thought of doing any teaching below the level of pre-professional seniors or graduate students. This activity will result in a few hard-driving training courses, quite likely better ones than we now have, and we shall hear a lot about them. All this will be to the good—unless it ties up too much of the available money and glamor and too many of the more ingenious men.

An Ugly Probability

This, I predict, is likely to happen soon, however. The difficult and more ambitious orientation course, we know well, has not enough friends in the laboratory, not to speak of the various advisory councils. Those are the places where power sits in educational matters in science, and it will be difficult for foundations to decide *for* the support of an orientation-course development and *against* a training-course development when both are competing for the same limited funds. The problem is therefore how to insert the proper additional force components to assure that the cause of science education does not swing too far to one extreme.

Let us assume that we have succeeded in convincing our colleagues and interested judges in laboratories, dean's offices, and foundations that there must be also room and support for the development of orientation courses, and that usually it is not appropriate to force a nonscientist into a specialized course on a single-subject science seen through the eyes of a working specialist. Assume that we have the tacit agreement (or at least the absence of violent opposition) to work up a needed science course which starts with one of the sciences as a core to a wider view of the whole field, one that does not break the three-fold bonds of that science with its own past, with other sciences, and with the cultural background in which science finds its real meaning.

What is likely to happen then? If present trends are an indication, I am afraid we may find that more and more the foundations (and their panels of referees) will use the personnel and the promised output of the big training course projects as their standard of comparison when they come to measure the merit of our application. (This in fact is already emerging in some fields of support.) For our project application, involving relatively few people who are willing to do a thoughtful job by their own lights, we will more and more often get a polite refusal with some such remark as this: "There is broad agreement on the desirability of developing one or more alternatives to the Great National Chemistry (or Biology, . . .) Course; but the key point is that alternatives of the kind you propose must be invented and developed by scientists and teachers whose competence matches the group involved in the GNCC. For a highly experimental venture, your group need not be large, but it should command the confidence of the appropriate segment of the scientific and educational communities."

In an operational sense, the meaning of such remarks will be a discrimination against those course developments that depart to a considerable degree from narrow subject-matter training courses, which are those that come naturally to the mind of the most vocal and influential research scientists. It will also amount to discrimination against small groups, those below the megaton range, which do not intend to make themselves felt immediately throughout the nation.

I am not hostile to large-scale efforts or crash programs *per se*. There are tasks that can be accomplished in no other way. But there is a clear and present danger of an increasing fascination and preoccupation with the Big Show, and a correspondingly decreasing belief in the long-range national importance and efficacy of the work of individuals or relatively small groups.

The Tocqueville Fallacy

Nothing could be more detrimental to the development of sound programs than a loss of balance between large-scale and small-scale programs, particularly in the nontraining aspects of science education with which we are here concerned. We must generate a great number of continuing attempts of all kinds and sizes, precisely because the job is so difficult and the aims so hard to specify concretely. To put it in terms of an analogy, the state of the art of designing courses for nonscientists still is more in the Hahn-and-Strassmann, Meitner-and-Frisch stage than in the Manhattan Project stage. In stimulating and financing new orientation courses for nonscientists, we must at all costs preserve an honored and perhaps even a preferred place for the individual and for the small group that does not pretend to know already what is good for every student in the USA.

It is in the field of education that one must guard most carefully against the aristocratic fallacy. You will remember the dispiriting conclusion to which Alexis de Tocqueville came at the end of his great work, *Democracy in America*. He feared that democracy would lead inevitably to a deterioration of the great social examples imposed from above, the models of style and the elevated thought constructs that he thought to be characteristic of aristocratic society in all its endeavors, including the sciences. In America, he said, "everyone is actively in motion," intent on some self-aggrandizement guaranteed by the openness of opportunity to all; and thus "there prevails amongst those populations a . . . sort of incessant jostling of men, which annoys and disturbs the mind, without exciting or elevating it." The emphasis in science and the arts is on the applied, not the theoretical—sometimes, admittedly, with great success: "These very Americans, who have not discovered one of the general laws of mechanics, have introduced into navigation an engine which changes the aspect of the world." But aside from giving credit to such practical triumphs, Tocqueville nostalgically mourns the passing of the aristocratic age as he sees the great new mediocrity sweeping over everything: "When I survey this countless multitude of beings, shaped in each other's likeness, amidst whom nothing rises and nothing falls, the sight of such universal uniformity saddens and chills me, and I am tempted to regret the state of society which has ceased to be."

This attitude is the ideological heart of all plans which attempt to impose a solution found by an elite group upon a large fraction of the nation. There is no doubt that occasionally a large crash program seems the only sensible solution at the time (though, in retrospect, many of these, from the Manhattan Project on, do not stand as unalloyed blessings). But we should remember the real reason why Tocqueville's lugubrious prediction turned out to be wrong, why our nation, far from having sunk into some all-pervading mediocrity, has instead been setting standards of excellence which no aristocratically oriented society even hoped to achieve. The reason is that in place of *aristocratic* models of excellence, imposed by small groups upon the large mass, the peculiarly American genius is that for *pluralistic* excellence. By warding off monopolistic and monolithic practice, we have usually managed to keep the social units of action *small* enough to give the varied exemplars of excellence in each unit a chance to assert themselves against the background noise of indifferent or hostile mediocrity. The prototype of action is still that of town-meeting government, rather than that of a one-way flow of directives from a central Rome or Paris. Our commercial, political, and educational enterprises function in this way, and are characterized by a large measure of local control and the exercise of individual authority over manageable large groups. In the pursuit and support of research in science itself, we have also reached our place not by following the hierarchical model, in which everything radiates down from the École Normale and École Polytechnique, but by encouraging excellence wherever and whenever it shows itself.

Thus, for educational programs as well, our formula must be Excellence *and* Pluralism. It is certainly not an easy slogan to follow. It requires tolerance and encouragement for a multiplicity of diverging aims all around us, rather than adopting some great aim for all. It requires instigating a whole spectrum of efforts, involving one or two men as well as ten or twenty. It requires a total effort of an order of magnitude larger than exists now, for we seem to have a great deal of *pluralism* but by far too little *excellence*. It requires our suppressing the seductive nostalgia of Tocqueville when there seems to be only a rising tide of mediocrity in educational programs, and our redoubling our efforts to seek out good people and good ideas. In the short run, it is the more expensive, the more difficult, slower way. But in the long run, it is the only wise way.

Rigor in Orientation

I have tried to outline reasons why good orientation courses are preferable to training courses in the science education of nonscientists, and reasons why the continued development of orientation courses should go simultaneously along a variety of lines. I can, therefore, better defend talking briefly of *one* such course. I do not need to repeat here the details concerning the course I give from time to time at my university (*3*); I shall instead refer to three specific aspects of this course that may be generally applicable: rigor, the place of the history of science, and the centrality of certain specifiable subject matter.

First of all, scientific and mathematical rigor: It is my impression that far too often the nonscientist's program is not ambitious enough in this respect. It therefore not only limits the opportunity to give a meaningful and exciting course, but it also forfeits the respect of colleagues and students. To say even to oneself that students cannot deal with "difficult" material may be a self-fulfilling prophecy. I am convinced that within reasonable limits the nonscience course can and must give a thorough and honest presentation of substantive scientific material, going into depth at the cost of encyclopedic coverage. The main obstacles to this, in the order of their importance, are lack of courage and skill on the part of the instructor, the students' poor preparation in mathematics and science in high schools (particularly for prospective nonscientists), and lack of support for a necessary minimum *two*-year program in science at all too many United States colleges.

The first of these is the concern only of those of us interested in orientation courses. We can, however, help one another better than we have done. We do not have to go on, meeting occasionally every few years by chance and having no structured way of communicating in between times. As a profession, the group of people seriously occupied with orientation science courses has acted amateurishly. We cannot really expect existing professional societies with specific one-field aims, such as the American Association of Physics Teachers, to make much room for our predominantly interdisciplinary interests. Therefore, we might organize ourselves better.

I propose nothing elaborate, no establishment with presidents, vice presidents, and executive councils. What I have in mind is a continuing conference, a more or less regular meeting, say, every two years. A quarterly newsletter might also provide a simple way of knitting together this dispersed fraternity.

The purpose of all this is *the* serious purpose of any profession: discussing new ideas, problems, and failures; setting standards; discovering talent and recruiting staff, and putting some muscles into the arm that holds the tin cup.

Preparation and Support

The second and third of the obstacles should also be the subject of a more serious attack. There is no space here to do more than remind you of the areas of necessary action. As for the issue of the poor high-school preparation of college-bound students, I can at least identify my general position by returning again to C. P. Snow (*6*) and his recent comment:

> If we start our education seriously at six . . . then I believe we could educate most people in both these cultures without giving them any more strain than the average English or European or Russian child now takes as his natural duty. . . . Your education has the width but . . . you find that the desire to make children happy removes the necessity of teaching them anything between six and 18. Your college education is fine; it can do everything you ask of it. But you must really insist that between six and eighteen your children learn something of the principles of mathematics and physics. By this I mean doing something like four hours of

> mathematics and physics a week, four hours each, from about ten through eighteen. This is what a European child expects to do; why shouldn't you do it? And on the other side, I think you ought to have the same amount of time on a language. . . . You can produce children of eighteen who really know something, and then this marvelous superstructure, this varied and magnanimous college edcation of yours, would have a real chance to produce the best educated college population on earth.

I do not hold any brief for a specific number of hours or years or for high-school physics as against a spectrum of sciences. But I share the general sentiment. Moreover, I shall continue to hope that our better colleges, forced by the increasing number of applications to use a better selection mechanism for admission, will reinvent a device for assuring some minimum competence on the part of most of its students in a few subjects, not only mathematics and some one experimental science, but also social studies, English, and one other language. This device is, of course, an honest achievement test. It is utter obscurantism to charge that achievement tests *have* to have the effect of putting all high school curricula into lockstep, or that they *must* favor the prep school student or the one who knows only how to cram, or that they will become the only criteria on which to base admissions, or that in this manner our best colleges will be full of distorted characters who happen to be at the top of the IQ range. On the contrary, the harmful effect comes from the outdated marketplace mentality of the makers of selection policy, who until not long ago were hawking their college admissions as if they were perishable fruit, and who therefore created, over the years, the clientele we now find to be so destitute of substantial precollege achievement. The premium has been on the Noble Savage, the talented boy or girl (as determined by "aptitude" tests) whose precollege state of Nature has not been unduly disturbed by the requirement to know well anything in particular.

The harm this overpermissive attitude on the part of colleges has done is threefold. It has injured the student's own preparation, the morale and effectiveness of high school teachers, and the college courses, which, in all too many cases, have had to do the kind of work that certainly could and should have been done in high school. If the picture of high-school science courses should change, if (after giving sufficient warnings) the college were to bring some pressure on schools and prospective students to learn some elementary, testable things before they come to college, we should be half way to the solution of most problems in science education for nonscience college students.

History of Science

The second aspect of my preferred type of course concerns the place of the history of science in such an introductory college offering. I keep an important niche for the history of science in an orientation course. In my essay in Professor Haun's book (*3*), I elaborated on the advantages of letting the historical and philosophical development of science suggest the organization and unification of the course material. But the course does not become one in the history of science. Any science course, including the orientation course, must find its warrant and strength in its scientific content.

It has taken a dozen years after the appearance of the influential book, *General Education in a Free Society* (*2*), for Harvard College to discover this point officially. Science, as conceived in the Red Book (as it is usually called), is to be presented "as part of the total intellectual and historical process," for science is an historical and philosophical experience—in short, one of the humanistic studies. The subject matter of physical science, which in fact is its glory, is throughout the Red Book viewed with uneasy suspicion; the teacher is warned not to teach science for its own sake and is invited to use science to discuss something else, namely, the intellectual and historical process. In case he objects to this change of allegiance, the Red Book lays down the dictum, "The claim of general education is that the history of science is part of science."

As a guiding philosophy for a first course in science I believe this was a basic mistake. It is not hard to understand why this basic position was adopted in regard to introductory science. First, the statement is not entirely wrong; that is, while fatal as a basic attitude, it points to a very useful auxiliary requirement for a good general education course. Second, the position of the Red Book has a seductive quality. Conant, for example, has argued (*1*) that science can be understood by studying the period from Boyle to Lavoisier, a proposition which is perhaps more erroneous in physics or biology than in some parts of chemistry. Furthermore, the position appeals to students as effectively as it did to Mr. Conant, though for a different reason: The student pressure for more history and philosophy at the expense of science perhaps goes back to the fallacy that the history and philosophy of science are easier subjects than science itself. And third, the position of the Red Book was no doubt in part a reaction against the many dull and badly taught introductory science courses which have been features on the college scene for so long that we have almost become used to them.

To avoid misunderstanding, I want to reassert my agreement that the history and philosophy of science are interesting and important scholarly fields; indeed, I am devoting some of my research time to the more recent history of physics. For students without scientific background, however, as in the elementary general education course, I feel one must be content to use these fields as aids in orienting the class to science itself.

In Search of Central Content

After rigor and the place of history, the third point to single out is prompted by the so-called Bruner Report on General Education at Harvard (1959) which has modified the philosophy of the old Red Book. In assigning a more appropriate place to the history of science, the report says rightly, "The present Committee urges strongly that the basis for selecting material for presentation in a course in Natural Science should derive more directly from the logic and substance of science itself."

However, it immediately goes on to throw out the baby with the bath:

> The most pressing problem concerning scientific instruction . . . is not, however, the problem of how courses in Natural Science are to be taught. *The problem is one of staffing*, of continuing to attract distinguished . . . scientists into the General Education Program. Ideally, there should be no such problem. In fact, there is one, for there are demands on the time and energies of scientists at Harvard that constrain the amount of teaching that they can undertake (italics supplied).

The recommendations on aims and procedure are thus mainly prompted by manpower problems. The proposed solution is "flexibility" of the widest sort. The specialist is invited to present as a General Education course "a few specific but significant topics within a science" in some depth. "The theory of evolution is an example of such a topic.

The concept of elementary particles in physics is another. The nervous system and its function provide material for still another." But so, one must conclude, is any one of an almost infinite set of possible topics at or near the frontiers of science. The oceanography of the Atlantic? The metallurgy of alloys? The biochemistry of genetic material? Information theory? In search of manpower, everything becomes equal to everything else. Pluralism becomes randomized.

One must be practical. And therefore I am willing to settle for any *good* science course of this kind rather than a *mediocre* science course of any other. But we should be clear that this is a far-reaching compromise; the necessity for it is by no means proven. If we take seriously the orientation functions I have outlined here, then the subject matter is not equally easily drawn from just any of the major areas of science that are currently under research investigation. Our intellectual tool kit, our view of the world and ourselves, our great problems, our sciences themselves—they are all what they now are in good part because of a small number of specific developments in science: the heliocentric hypothesis, the Newtonian synthesis, the atomic theory of physics and chemistry, relativity, the nuclear atom, to mention only some major topics from the physical sciences. I strongly urge that these topics be at the core of any course for nonscientists. The availability of an instructor primarily interested instead in, say, reactors, accelerators, and cosmic rays may well give us an exciting course on reactors, accelerators, and cosmic rays, one that will not be without value for the nonscience student. But is this the best we can do if our aim is to teach him science *while at the same time* helping him to orient himself along each of the five basic dimensions discussed earlier?

To sum up: Instead of giving a design for a detailed college program, I have attempted to set out some *criteria* for the design and improvement of science courses in general education. These are, so to speak, the general boundary conditions which, in my opinion, take into account the past and allow for a number of valid solutions in the future. As an active participant in this educational task, I have had to declare myself for certain specific details and against others. Therefore, I have spoken in favor of a specially developed, hard-hitting, substance-centered physical science course combined with mathematics, one which uses the major formative cases in the development of physical science as a skeleton on which to base case studies in depth. I have asked that the course take pains to contribute wherever possible to the general goals of the student's education, enabling him to find his talents, to become at home in his universe, to understand his relation to his fellow men, to see where we stand between our past and our likely future, and to become more certain of the functions of knowing and believing. I have recommended at least two successive full-year courses, one centered on the physical, the other on the biological sciences, to be preceded by sound, testable achievement in high school. I have urged that college administrators, research scientists, science instructors, and foundation officials encourage actively a greater variety of and greater excellence in such courses, including those small enough to serve local purposes before aspiring to nationwide acceptance.

Yet, despite the specificity of the recommendations, I hope that there is evident behind them a still more important plea, the plea that anyone with competence and interest throw himself wholeheartedly into a new development, whether it fits these specifications or not, if he really feels that he has caught the pattern of a possible new excellence in this field. For here, as in science itself, the genuinely important discoveries are those that are going to be made tomorrow.

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A little learning is . . .

Gross, M. L. *The Brain Watchers.* New York: Random House, 1962. Pp. 304. $4.95.

Hoffmann, B. *The Tyranny of Testing.* New York: Crowell-Collier, 1962. Pp. 223. $3.95.

THE EXTENSIVE AND INCREASING use of psychological tests for a variety of purposes has led to a great deal of speculation and worry—but very little research—about the likely outcomes of the situation.

That these tests will have negative effects on students and adults is the theme of these books by Gross and Hoffmann. Their critiques seem to be part of the current national preoccupation with educational and psychological matters. "Everyone an educator" might better be rendered these days as "Everyone a test expert."

The two books have much in common. Both were written by men who lack the training and perspective for the tasks they attempted. Both wear the trappings of scholarship, but frequently violate its ideals by distortion and by biased selection of evidence. Gross's shortcomings in this respect may be forgivable, since he is a magazine writer and not a trained scholar. Hoffmann's are not. Although Hoffmann is a physicist and mathematician, his methods reflect some of the anti-intellectual attitudes that we would expect from an uneducated person—reliance on anecdotal evidence, the substitution of invective and insinuation for information, misinterpretation of the role of statistical procedures in test construction, and even at times an apparent disregard for scientific method itself. Both books are more concerned with inciting rather than informing the reader. Except for some new anecdotes, neither adds anything to our present knowledge about tests. If they had been scholarly, they might have helped to clarify some of the real issues connected with the use of tests, and perhaps they could have outlined some constructive action. Too often, both authors display a predilection for the sheerly peripheral.

Although *The Brain Watchers* has no preface (and, indeed, no index or bibliography), Gross makes his purpose clear in his frequent abuse, his sarcastic chapter headings, and his first sentence: "This book is about brain watching, the art, its practitioners, and its subjects, some 50,000,000 hapless Americans."

Gross focuses his attack on interest and personality inventories and their users. He defines a brain watcher as anyone who uses personality and interest inventories or assessment devices. He treats this diverse group as if they were of equal competence—or, as he would say, of equal *in*competence. Brain watchers include industrial psychologists, professors of psychology, personnel directors, businessmen, employment agency managers, guidance counselors, admissions officers—in short, anyone who uses testing devices as tools for assessing, treating, classifying, or making predictions about children, students, or adults.

According to Gross, the rapid growth in the use of interest and personality tests is a "challenge to modern man's individuality." He believes that these tests favor the conformist and reflects "the tester's innate fear of talent."

He believes further that "mass testers have stealthily accomplished a hiring revolution—who is to be permitted to work where, and how—that has callously undone our traditional ritual of getting a job." The testers' goal is to find and hire the "Square American: the non-neurotic, reasonably hard-driving, cooperative, anti-cultural, self-confident, loyal, conservative, healthy employee."

The use of interest and personality tests in schools and college is also held to have adverse effects. Gross believes that the research programs of PROJECT TALENT, the College Entrance Examination Board, National Merit Scholarship Corporation, and similar agencies do, or will, have destructive outcomes. The "grand scheme" is to use tests to predict which students and adults ". . . have the personality makings and which are to be eliminated. . . ." He also thinks that attempts to identify students with emotional problems are destructive, since such practices give children negative labels and expose them to treatment by incompetent school personnel. Finally, Gross attempts to review the development and construction of tests and to outline some of the ethical issues involved in their use.

This book is written from an over-simple and unbalanced point of view. The author glosses over complexities rather than analyzing and clarifying them. He treats *all* test users as bungling fools and *all* interest and personality inventories as worthless. For example, we find one pioneering inventory with an impressive 25-year history of positive empirical findings lumped with an inventory of recent origin and dubious validity. Similarly, competent industrial psychologists are not distinguished from incompetent practitioners and downright imposters.

Gross attempts to document his thesis by citing research evidence and by quoting the opinions of authorities in psychology and psychiatry. To the naive reader, he may appear to have mounted a sophisticated and devastating attack. To the educator or psychologist, it is clear that he has chosen only the negative evidence. When he cannot find evidence, he uses instead a homey anecdote, and a complex problem is resolved by a simple, "self-evident" truth.

Although Gross devotes a large portion of his book to "demonstrating" that interest and personality inventories have no validity, he is at the same time not in favor of research to develop better inventories. He attacks one national project which has undertaken a census of our school population and a validation of a carefully-constructed battery of tests and ideas almost before it is started.

The evidence which Gross cites simply does *not* suggest, as he contends, that testing favors the conformist and penalizes the innovator. (In fairness, it is hard to know how anyone could unequivocally prove this point except through a large-scale project, and perhaps not then.) More significant, Gross overlooks the recent research that has been done on creativity. Many "brain watchers" are more interested in the creative people than any other kinds of person, a fact which is hardly congruent to his major thesis.

Despite its black-and-white thinking, Gross's book may serve to alert the public to a growing group of charlatans whose incompetence and immorality make them unfit to use tests. His vivid descriptions of these dubious practitioners who hang about on the fringe of business and psychology are both frightening and humorous. It is clear that our best actors are not all on Broadway.

Like Gross, Hoffmann is a specialist: He attempts to anathematize only objective tests, particularly multiple-choice tests designed to measure a student's potential for college work, or his knowledge in various academic fields—English, mathematics, history, physics, etc. Specifically, Hoffmann charges that such tests are "objective" only in their scoring, that the ambiguity of some of the questions penalizes knowledgeable and creative students, and that the testers are not concerned with the quality of the reasoning that leads to the correct response. Hoffmann also believes that those who build and use tests—testing agencies and publishers, colleges and scholarship programs—wield an excessive power and need to be subjected to more criticism and control.

Hoffmann attempts to document his opinions about the shortcomings of objective tests by reviewing a variety of test questions—sample questions from test booklets, civil service questions, questions from college course examinations, hypothetical items constructed by psychologists who tried to teach him some of the fundamentals of test construction, questions from the Iowa Tests of Educational Development and the Scholastic Aptitude Test of the College Entrance Examination Board, and even illustrative test questions which he himself devised. Twenty-seven of the 31 items which Hoffmann takes us through in his review were never used in any published test. And of these twenty-seven, 16 were written by Hoffmann himself.[1]

Hoffmann then suggests, by loaded diction and by an odd statistical and sampling procedure, that "defective" questions ("defective" in that they fail to meet his rational analysis) exist in large quantities:

> Indeed defective questions are quite readily come by. One does not have to scour the countryside for them in desperate search. One has but to shake the tree and they fall in abundance.

One might ask how many per tree?

Following this arboreal agitation, he undertakes a long analysis of 12 sample questions (never used in computing a student's score), and concludes that 66 per cent of the "difficult" questions (two out of three to be exact) are ambiguous.

Hoffmann makes two fundamental errors. First, he assumes that his little sample of test items is representative of all published objective test items. This inference cannot be made, since only four of 31 items were taken from published tests. Second, Hoffmann fails to realize that even if he could prove his first assumption that the test items are ambiguous, he would still not have disproved their empirical validity. In short, a test question may work empirically even though we lack approving agreement on its wording or an understanding of the reasons for its working.

Hoffmann's extended harangue about "defective" items—indeed, most of his book—seems inconsistent with his earlier statement that "The majority of the questions that testers ask are clear-cut and straightforward" (p. 21).

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[1] This census of test items is only approximate, since the source of the test item is not always clear, and since some items appear twice.

Some of Hoffman's attempts to document his charges display an amateurish handling of a few selected studies. Like Gross, when he cannot find evidence, he cites anecdotes or misinterprets the available evidence. His belief that testers and testing agencies "are already too powerful," and therefore evil, receives only anecdotal illustration. Most readers will be bored by his lengthy account of correspondence between himself, testing agencies, and two students who didn't like certain test items.

Although he has not proved that there is a need for public inquiry, Hoffmann finally proposes that a national "committee of inquiry" be established to police tests, thus insuring that they meet appropriate standards. Such a committee would formulate policy and suggest remedial action.

> In so doing it should consider the whole field of testing . . . with particular reference to the effects of tests on education, business, and the strength and vitality of the nation—for these are the transcendent issues.

Hoffmann also pleads repeatedly that in place of the objective test or any other "inexpensive statistical substitute," "informed judgment with all its frailty" be used. Although he is either unclear or uncomfortable about the alternatives to tests, Hoffmann would like us to return to the era when teachers' recommendations and screening interviews were relied on to predict who would do well in college. He disregards the overwhelming evidence that such expensive procedures have *less* validity than simple objective tests. Implicit in his plea for a return to these horse-and-buggy methods (Barzun, in the preface, reveals a similar attitude) is the belief that it is indecent and inhuman to characterize a person's potential for college work or vocation by a brief test scored by an unfeeling machine.

Assessing a student with an objective test is no more inhuman than taking his temperature. It is the skill and wisdom with which such devices are used that determines their humaneness. Is it more humane to use methods which have low validity and low reliability (interviews, teacher ratings, essays, etc.) in place of objective tests which have moderate validity and high reliability? Hoffmann's plea for greater use of the essay and interview as methods for selection and prediction *sounds* humane, but the empirical evidence clearly demonstrates that for some purposes such methods are *in*humane: They lead to more errors seriously affecting people than do objective tests.

Some common sense about tests is called for. It should be realized that tests are simply tools for securing information about people. Their usefulness depends on their validity and reliability and on the skill and integrity of the tester. A test is to be judged by its empirical usefulness in specific situations. The question to be asked is one of whether the test helps to accomplish something which could not be done by simpler and cheaper means.

Critics of testing have held that only a certain type of test question—whether multiple choice, true-false, essay, or oral—is valuable for identifying a certain type of person—the scholar, the creative artist, the non-neurotic, the conforming employee, or whatever—but such is not the case. For example, many scales which have proved efficient in identifying creative people use the much-maligned true-false format. Constructing good test items is a creative task; the usefulness of the item will depend upon the ingenuity of its creator. The validation of test questions, however, is an empirical matter, and there are, fortunately, many scientific guides for deciding whether or not an item accomplishes its purpose.

We should see how much truth there is to the charge that tests favor the conformist. Perhaps studies could be done at different institutions—colleges and business firms in particular—of the changes which take place in them after they begin to use psychological screening programs. Many institutions report that these programs lead to the selection of "more desirable" applicants. Does this mean that they are selecting more conformists? Is the creative person being forced to seek poorer jobs? Are our colleges and businesses becoming dangerously homogeneous?

The brief stir which the two books under discussion will create may impel someone to write a book which moves us ahead rather than in circles. Such a book should deal thoroughly with the construction and validation of tests and with the ethical problems involved in their use. Above all, it should emphasize that the effects of tests depend more on the skill and integrity of the user than on their content and format. Fortunately, professional groups are continuing to press for better tests and higher ethical standards. Hopefully, the potential user of psychological services and tests will realize his responsibility and learn to recognize the incompetent and the charlatan.

Book Reviews

Committee on Graduate Education of the American Historical Association. *The Education of Historians in the United States.* New York: McGraw-Hill, 1962. Pp. xii + 244. $4.95.

The careful, thoughtful report of the American Historical Association's Committee on Graduate Education has appeared at a critical time when the training of PhDs in history is receiving widespread reappraisal. The rapid expansion of institutions of higher education apparently will greatly increase the need for teachers of history. Many prognosticators warn that the output of new PhDs will not be able to keep up with the demand. Others, accepting these predictions, are either establishing graduate programs in institutions that have not previously granted the doctorate in history, or are recommending a foreshortening of the training in the established graduate schools. Some would like to see the degree requirements modified to make room for the person who wishes to be primarily a teacher, not a research scholar. A few others would like to accomplish the same end through a rigorous master's degree program. In general, almost all advocates of change have felt that the incoming graduate students must be speeded toward the PhD more rapidly than in the leisurely generations of the past.

Many of these proposals may well be desirable, but numerous trainers of historians feel that they can be achieved only at the expense of quality. These conservatives feel that good teaching and excellence in scholarly research are complementary rather than unrelated, and that, popular tradition to the contrary, the most gifted writers in the field of history are also often the most exciting in the classroom and, over a span of years, the most imaginative innovators. The conservatives also see an intrinsic worth in the well planned, carefully researched, skillfully written dissertation which can serve as the basis for a publishable monograph. They do not feel that it can satisfactorily be transformed into a brief exercise or be lopped and adjudged completed at the end of a shorter period. Considerably more maturation is involved in the preparation of an historian than in the training, say, of a mathematician, they would argue.

Judging by the American Historical Association report, the training of historians is still largely in the charge of these conservatives. Only eight per cent of the history PhDs of 1958 were awarded the degree within four years after beginning graduate study; only one-fourth were under thirty years old when they completed doctorates. Few historians would deny that some hastening of the candidates toward these limits would be desirable; it is the drastic speedup to which they object. So the Committee recommends. It also concerns itself with a broadening of the areas of knowledge, the development of teaching capacity, and the improvement of the financial status of degree candidates. And troubled over the inadequacy of many of the institutions that train historians, it proposes that history departments meet three conditions: (1) have recognized scholars in at least three broad fields of history, (2) be able financially to assist graduate students, to allocate faculty time to them, and to develop faculty members as scholars, and (3) develop adequate library resources. A conspicuous merit of the report is its assemblage and reporting of a wide array of statistics concerning PhDs in history. The tables cover innumerable aspects, from the number of PhDs produced in each institution to a comparison of the faculty guidance received by graduate students in history and in other disciplines.

FRANK FREIDEL
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South Penn School Study Council. *A Handbook of Developmental Reading.* Philadelphia: Univer. Pennsylvania, Educ. Serv. Bureau, 1961. Pp. ix + 173. $3.50.

This third report on "Developmental Reading" issued by the South Penn School Study Council incorporates two previous reports, *Developmental Reading in the Junior High School* and *Developmental Reading: The What and How*, and is the result of three years' effort by twenty English teachers, reading consultants, and administrators working under the direction of consultants from the School of Education at the University of Pennsylvania.

It has become common practice for school systems and study councils to issue guides or handbooks as proof, possibly, that committees can be productive. This is slight justification, however, for the expense involved in printing and selling the results of "co-operative efforts." Something more than evidence of the committee's industry must be included for the purchase price of $3.50.

Aside from the question of whether committee reports should be offered for general sale, guides such as this one are sometimes defended as ends in themselves, valuable because the contributors learn so much in the process. This is an assumption that demands scrutiny. One wonders what worthwhile professional tasks are left undone in the manhours consumed by studying professional books and digesting their contents for a "new" publication. To what extent does the preparation of a handbook on development reading improve classroom practices even among members of the committee, to say nothing of the broader influence for which it is hopefully intended?

Certainly, teachers of reading in junior high school need help. They can find good advice on how to schedule classes and test pupils, on what skills should be taught, and what published materials should be examined in the sources acknowledged in this handbook. Even with these sources to guide them, however, they still need help.

Their greatest need is materials. A real service could be performed by a study council that would seriously evaluate workbooks, texts, tests, and kits of materials on the basis of classroom use. Where there is no existing research to draw upon, a committee should supply evidence from first-hand experience in using the materials in teaching. A study of this kind would tell teachers where they can find materials for teaching specific skills at specific levels of achievement, pointing out the limitations and strengths of the materials. (*A Handbook of Developmental Reading* includes a briefly annotated bibliography which is of little use to the novice teacher because it is unselective in its titles and non-critical in its evaluations.)

Teachers also need help in how to use published materials. How can they organize a variety of materials for efficient classroom use? What is the role of the teacher when he has a do-it-yourself kit of reading exercises for his students? What dictionaries should he order? What encyclopedias? (The handbook makes a gesture in this direction by listing encyclopedias, but the evaluations are not sufficiently pointed.)

Production of materials for classroom use, filling gaps as yet unfilled by commercial publishers, is another worthwhile function of school study councils. Lesson plans and skills exercises, to be tried out in many classrooms before being published for wider distribution, are more likely to influence teaching practices than the lists of skills and techniques that constitute a large part of this handbook.

The handbook includes a sample reading inventory based on the Scott, Foresman basal readers. This is an unfortunate example of what this reviewer means by supplying teachers with materials they can use. It is unfortunate because sample reading inventories are now provided by publishers of graded reading materials and have long been included in professional methods textbooks. It is unfortunate, too, because this type of inventory is of limited usefulness at the junior high level. More necessary are informal tests of specific reading and study skills applied to subject-matter textbooks.

It is not our purpose to single out this particular guide as a horrible example. It is at least as good as many another publication almost indistinguishable from it in content and format. But we must view with alarm the appearance of yet another collection of lists of skills, techniques for teaching, sample tests, charts, and bibliographies. With so much to be done in education, we must question the value of the umpteenth curriculum guide and ask for a re-direction of teachers' efforts along more compelling lines of endeavor.

MARGARET EARLY
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Dressel, P. L., & Assoc. *Evaluation in Higher Education.* Boston: Houghton Mifflin, 1961. Pp. xvi + 480. $5.94.

Evaluation in Higher Education is an unique and important contribution to the literature dealing with higher education. While many of the topics included have appeared elsewhere, the sources are either too diffuse to afford reasonable availability, or they are generally inaccessible except to specialists in the areas concerned. One might therefore suppose that the book would meet the need, as seen by Dr. Dressel, "for a volume which would bring together in meaningful relationship the nature and significance of evaluation for graduate students, faculty members, and administrators concerned with higher education."

A brief outline of content should clarify these remarks concerning significance and purpose. The initial chapter is concerned with the pervasiveness and, indeed, the inevitability of evaluation in the range of educational activities from their philosophical foundations to their development and improvement through scientific research; evaluation is seen as an integrative element in such activities. The place of evaluation in the formulation of objectives and in the learning process is the subject of the following two chapters. Chapters 4 through 7 deal with evaluation of student achievement in each of four major areas of instruction—social sciences, natural science, humanities, and communication skills. Following are chapters on testing and grading policies; comprehensive examination programs; selection, classification and placement of students, and evaluation of instruction. The two concluding chapters deal with intra- and inter-institutional surveys and institutional self-evaluation.

This is a well organized, highly readable volume. It does not suffer from the malady of disjunction which can easily result from multiple authorship. It is decidedly nontechnical, but is necessarily so because of the heterogeneous group at which it is directed. One could argue that most of the book represents another journey over already well traveled ground; clearly, the materials on objectives, evaluation in specific instructional areas, grading, selection, classification, placement, and effectiveness of instructors and teaching methods, have been, with varying success, treated in a number of other sources. More comprehensive discussions of learning are also available elsewhere. Much may be gained through a fresh approach, however, particularly when it is also sound and well integrated. Perhaps the most important of this book's assets is its broad coverage of diverse but related topics and its synthesis of them in the context of evaluation in higher education.

A special word should be said regarding the two concluding chapters. For the first time, a discussion of material on surveys and self-studies is included in a volume dealing primarily with evaluation in instructional processes. Perhaps the result will be an increased awareness on the part of administrators and faculty members alike that these two kinds of evaluation are related and interacting. In addition to brief mention of several completed studies and a review of the kinds of factors involved, these chapters contain a large number of references to the relevant literature which should prove of value to those interested in more detailed treatment.

Although the over-all value of the book as a synthesis of many different aspects of evaluation in higher education is unquestioned, it suffers to some extent from a lack of balance in the topics considered. The case for separate discussions of evaluation in the four content areas mentioned is not convincing. This material comes close to the how-to-do-it type of presentation which is meticulously avoided in the remainder of the volume. It is doubtful whether differences in the principles involved are great enough to warrant separate treatments in this type of volume. These four chapters might well have been reduced to one, with less emphasis on cognitive and more on affective objectives. Such a reduction would have permitted greater attention to the over-all evaluation methods considered too briefly in the last two chapters.

In spite of this criticism, this is a book which helps significantly in meeting a manifest need. It should be extremely useful to all who are concerned either directly or indirectly with higher education.

RICHARD H. LINDEMAN
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Mayer, F. *Creative Universities.* New York & New Haven: College and University Press, 1961. Pp. 111. $3.50.

The brief biographical sketch printed by the publisher on the jacket of *Creative Universities* states that Dr. Mayer has written fifteen books, not including this one. Commendatory paragraphs on the same sheet and a preface by Lawrence G. Derthick increased my interest in reviewing a book so highly lauded.

The Preacher, the Son of David, in the tenth verse of the first chapter of Ecclesiastes asks a question pertinent to this book: "Is there anything whereof it may be said, See, this is new?" After careful reading and rereading, in my judgment the answer is "No."

The title of the book is *Creative Universities.* The author, however, interchangeably writes of colleges, institutes, higher education, and universities as if they were synonomous terms. Even junior colleges are included. Of more importance is the fact that barely any mention is made of publicly supported state universities, such illustrations as are cited being almost exclusively Harvard, Yale, and Princeton, with Caltech and MIT tossed in now and then. A careful search—there is no index—uncovered only passing references to two state universities and one state college.

Not only is there nothing new in *Creative Universities*, but what is written gives the impression of haste, of an urge to add yet another book, number sixteen, to a *curriculum vitae*. The result is superficiality, excessive quotation, careless or inaccurate or naive statements, and even wisecracks. One illustration must suffice: "To see philosophers in action one must attend their conventions . . . the meeting is more like a funeral . . . this is not a convention of philosophy professors but a meeting of morticians" (Pp. 90,91).

Despite a stated intention to look forward, there is almost complete dependence on references ranging from Plato and Aristotle to James, Santayana, and Dewey, with liberal quotations from Thoreau and Emerson. Of men now living, only Adler, Conant, Hutchins, Maritain, and Mark Van Doren are mentioned. A professor of drama, "one of the most successful teachers in higher education in our time at Baylor University," rates almost two pages in the chapter on "Method and Content."

Within the limitations of a five-hundred word review, it is not possible to cite more specific illustrations to prove that this is hardly required reading for university administrators and teachers or, for that matter, laymen. In fact, I cannot tell to whom the book is addressed.

This, I know, is a harsh judgment, but increasingly over the years, I have come to deplore authors who "make many books" and publishers who print them. They are indeed "a weariness of the flesh." If anyone doubts my fairness, let him borrow the book and read the "new set of commandments," beginning on page 109, in which Mayer summarizes his creativity. If the reader finds anything new—read on! I did find one word, *entelechy*, which, not being a philosopher, I added to my vocabulary. But try weaving it into a lecture sometime!

EDWIN A. LEE

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May, E. R. *Imperial Democracy*. New York: Harcourt, Brace, 1961. Pp. 318. $6.75.

In his polemical essay appended to *War and Peace*, deriding biographical determinism as a sovereign principle of historiography, Tolstoy observed that, "We say: Napoleon chose to invade Russia and he did so. In reality we never find in all Napoleon's doings anything like an expression of that design: what we find is a series of commands or expression of his will of the most various and undefined tendency." Professor May's well-documented treatise on the awkward manner in which the United States reluctantly consented to become an imperial power during the last decade of the nineteenth century lends additional force to the critique of history conceived as design.

We are presented with the paradox of a conquest directed by the likes of Cleveland and McKinley, of an epic with no political heroes. During an incredibly brief period, the US managed to invoke the Monroe Doctrine against the British in Venezuela, defeat Spain in a war which resulted in freedom for Cuba, and annex Hawaii, Puerto Rico, the Phillipines, Guam, Wake, and Midway. May's thesis is that this expansion was undertaken without any clear notion of its immediate and potential impact on the structure of international power. Serendipity, not a coherent foreign policy, was responsible for the portentous consequences of these undertakings. Thus, for example, in noting the effects of a near ultimatum delivered by Cleveland to England during the Venezuelan-Guianan dispute, May comments that the British were shocked into "the realization that the United States was a power with whom the British should come to terms. In effect, Cleveland and Olney startled England and the United States into one another's arms. It cannot be said, however, that they had any such expectation at the time. Even with all the evidence in, indeed, it is hard to divine just what they did have in mind."

May is scarcely more charitable of our policy in Cuba. "In dealing with Cuba, Cleveland and McKinley had a purpose in view. It was to avoid any international complications that might upset business. They wanted the Cuban problem to go away." In sum, "From first to last, the makers of American policy and the presumed leaders of American opinion concerned themselves either with abstract morality or with conditions inside the United States . . .Cleveland and McKinley had showed more intense preoccupation with matters at home than even the most isolationist advocate of national solipsism in the 1920s and 1930s. . . . Some nations achieve greatness; the United States had greatness thrust upon it."

May's account suggests an era characterized by a bizarre sort of relative innocence and intimations of Graustark. The Queen of Spain considered military defeat to be a more graceful way of evacuating Cuba than an immediate grant of independence, and she actually considered provoking and losing a way with the United States as a means of salvaging Spanish prestige. For his part, the hapless McKinley once conceived of the stratagem of simply buying Cuba outright, thus relieving himself of the tedious burden of decision about the entire untidy matter. And we are rewarded with a description by Theodore Roosevelt of the wartime President against whose arch-villainy the Democrats have won countless twentieth-century elections as "having no more backbone than a chocolate éclair." It is sometimes difficult to remember that this is the recent history of the most powerful nation on earth and that real men exerted pressures, made decisions, and died.

It would be ungrateful of us to expect

history to be so lenient again. Of all the events of the 1890s, when the United States prematurely entered the twentieth century, Cuba and the hazards of enforcing the Monroe Doctrine remain the most troublesome legacies. The successful resolutions of these issues now demand the most skilled and adroit leadership. A responsible US administration, functioning in the context of current realities, can scarcely afford to permit a power immensely more formidable than the England of Lord Salisbury to use Cuba as a staging area to threaten hemispheric solidarity and our own security. At the same time, any extension of hostilities arising from a future Bay of Pigs will not duplicate the victory at Manilla Bay, where six warships achieved total triumph in seven hours of conflict. No contemporary John Hay will be able to refer to any forthcoming battle over the status of Cuba as "a splendid little war."

Marvin Bressler
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Newman, R. P. *Recognition of Communist China? A Study in Argument.* New York: Macmillan, 1961. Pp. xii + 318. $1.95.

I should like to place a copy of this book in the hands, before the open eyes, of every member of the Congress of the United States. That would not guarantee the acceptance of Mr. Newman's conclusions, but it would increase the probability of thoughtfulness about a momentous issue almost obliterated in nonsense and irrelevancies for more than a dozen years.

"The United States should extend diplomatic recognition of the communist government of China, with or without a guarantee of reciprocity, with or without agreement on Peking's part to renounce all claim to sovereignty over Taiwan" (286). This is Newman's blunt and forceful conclusion. Put this way, Newman appears to be merely a partisan of one view of a highly charged question. Actually, his book is a careful, even painstaking, dissection of meaningful components of the extremely complex problem of recognition. The author has assembled extensive evidence and testimony, and he has judiciously weighed a number of alternatives. He has consulted spokesmen fervently against recognition and others who speak, with varying degrees of reservation, for recognition. In each instance, we are presented with contrasting opinions and Newman's attempt to discover the strength of the arguments as well as the bias and commitments which led to their utterance. Frequently, those who adhere to a policy of non-recognition are demonstrated in cold print to have tampered with history and to have employed *non sequiturs* in reasoning. The same persons have introduced appeals to emotion into considerations which, for the security of our country and the world, demand settlement on rational grounds.

The issue of recognition is protean in the sense that at the moment it is being grasped in one of its particulars, attention frequently shifts to another of its aspects. Indeed, the unsystematic approach may be said to constitute the tactic of those who would becloud the matter. Newman combats the confusing tendency to leap from issue to issue by distilling some 15 crucial points which he presents in the form of syllogisms. While, as Newman himself points out, it is meaningless to tally the score as one would in a game, most of the major issues are, in fact, decided in favor of recognition. The author's objectivity is manifest in his conclusion that in several points there is a basis for non-recognition. On two of these I would dispute with him.

One has to do with the question of Chinese aggression in the matter of the Sino-Indian border dispute. I agree that recourse to violence in the settlement of border disputes is deplorable and constitutes a *prima facie* threat to world peace. Newman takes it for granted, however, that the MacMahon Line is binding on both parties; by the canons of investigation he upholds elsewhere in his book, this is a highly dubious proposition. Incidentally, I doubt whether the MacMahon Line is any more acceptable to the Nationalists than it is to the Communists.

Another area of disagreement lies in Newman's treatment of the overseas Chinese, particularly those in southeast Asia. His analysis suffers from an inadequacy of source material which may perhaps be excused on the grounds that this is, after all, a minor and peripheral issue. Since he has raised it, however, I would question two aspects of his views. First, I do not believe that recognition itself would affect the status of the overseas Chinese; it has certainly not done so in the case of Indonesia. Second, the related point, which has to do with the potential for subversion, does not seem to me to be realistic in our present maximum-security world. This point may be well documented with regard to Malaya and Singapore, where the absence of recognition did not seem to hinder subversive activities, and in Indonesia, where recognition does not seem to encourage such activities.

The two main witnesses whose books and articles furnish a good portion of the "testimony" are A. Doak Barnett, author of *Communist China and Asia,* and Richard L. Walker of the University of South Carolina. The former comes off much the better in the forced exchange, but in light of his role in the dialogue, it might be said that if Walker did not exist, Mr. Newman would have had to invent him. Curiously, an important witness for recognition is the late John Foster Dulles, who, in a 1950 book, *War or Peace,* took an unemotional stand for recognition. Though he retracted this view before assuming the office of Secretary of State, Dulles permitted *War or Peace* to be reprinted in 1957 without changing his original argument on recognition.

At the present moment, there is some evidence indicating that the United States will demand, at the Geneva negotiations on nuclear test suspension and disarmament, that communist China be bound by whatever agreements may be reached. Without recognition, the request is almost absurd and certainly doomed. Recognition will not be brought about so quickly; it will require considerable courage on the part of the administration even to begin preparing the country for this step. Mr. Newman's book is a hopeful and helpful move in this direction. May he have many influential readers!

Morton H. Fried
Columbia University

Garner, W. R. *Uncertainty and Structure as Psychological Concepts.* New York: Wiley, 1962. Pp. ix + 369. $8.95.

When Shannon in 1948 published his mathematical theory of communication, he opened up an approach to psychology that has by now led to a substantial literature. Professor Garner was one of the first to see the relevance of information theory to psychology, without being thrown off balance by it, and this book is the result of his thoughtful attention to the problem since, both in the laboratory and in the study. The blossoming of the field of inquiry is reflected in the bibliography of some 250 references, chiefly in the psychological literature, two-thirds of which have appeared since 1955.

In writing on information theory (a phrase that Garner rejects in favor of *uncertainty,* which is what information theory measures), an author has the choice between becoming elaborately mathematical, or being more concerned with empirical content. Garner has chosen the latter alternative, although the reader without some familiarity with mathematics must do a good deal of skipping, and will miss much of the argument. This is applied mathematics, rather than pure mathematics, but the mathematics is essential to the argument; after all, the purpose is to convert problems to a form in which they can be handled with quantitative precision.

Let me suggest some of the things that can be learned from the book by one who is acquainted with probability and matrix notation, and with analysis of variance. He will find that some problems can be attacked through a univariate analysis, using the basic notion that the uncertainty of any one category can be specified by the logarithm of the reciprocal of its probability of occurrence. Some experiments in learning, perceptual discrimination, and reaction time are illuminated by this analysis, but there is a residual uneasiness about interpreting their results. Bivariate analysis permits the adding of joint, conditional, and contingent uncertainties, and leads to more powerful analyses of experimental data. The notion of channel capacity enters. Finally, multivariate uncertainty analysis provides the most powerful tool of all, making it possible to partition a total variability into its parts, and then to determine the extent to which uncertainty is related to each of several variables. The analogy is close with analysis of variance, for interaction uncertainty is included along with the various multiple uncertainties. Multivariate uncertainty analysis is, among other things, a statistical tool for analyzing sources of predictability; it has an advantage over the usual analysis of variance in that it requires no underlying assumptions about the metrics of variables. Its psychological applications are numerous; the illustrations used cover multidimensional stimulus judgments in several sensory modalities and speech discrimination. The deeper analysis often corrects the results of the preceding shallower analyses; for example, the defining of channel capacity is more complex when the dimensionality of stimuli is increased.

The person without appropriate mathematics can still learn something from the first four chapters, the content of which is condensed in the foregoing paragraph. Skipping the mathematics, and turning to the experiments, he will be rewarded by finding how freshly many old problems are viewed, and how precise many of the results are. The chapters are really about psychology, and the sections entitled "Commentary" are almost exclusively about the psychological inferences generated from the experiments through making the kinds of measurements suggested by uncertainty analysis.

The concept of *structure* (the second part of the title) is introduced in the fifth chapter in order to get at the problem of meaning. The mathematics is more subordinated here, though the problem is, of course, to find some way of dealing in a mathematical way with problems of stimulus patterning, the basis of meaning. Some useful distinctions are made, as between internal and external constraints; an internal restraint can be suggested by a language's individual structure and grammar, external constraints by the translatability of its words into another language, or by its references to the real world. Another illustration is that reliability is a measure of internal constraints; validity is a measure of external constraints. The crux of the chapter is that the sum of internal and external constraints adds up to total constraint or total structure or meaning. This leads to an understanding of the familiar paradox that a test cannot have at once maximum reliability and maximum validity. The bridge between structure and uncertainty is by way of redundancy; constraint implies correlation, and correlation implies redundancy. Redundancy serves, however, primarily to redistribute the total constraint between its internal and external forms.

After introducing the concept of structure and its appropriate mathematics, the final half of the book is purely psychological, with chapters on pattern perception (the problem area to which Garner feels his analysis is more applicable than to any other), the redundancy of language and its use, other sequential behavior, and concept formation.

The book is obviously competent, though this reviewer is unable to provide expert judgment as to details. Its flavor is thoughtful, earnest, and nonpartisan. One sets it down with the feeling that important advances have been taking place within psychology that will give a very different cast to many problems long familiar, that this is no temporary fad but a new way of looking at psychological data with which the serious young experimenter must surely become familiar.

Ernest R. Hilgard
Stanford University

Boring, E. G. *Psychologist at Large.* New York: Basic Books, 1961. Pp. 371. $6.50.

Perhaps nothing is so intriguing as an intimate and literate view of the life of an interesting person. It is the tensions within a person that make him interesting. Basic Books invited Edwin G. Boring, Edgar Pierce Emeritus Professor of Psychology at Harvard University, to contribute his autobiography, some selected letters, and some selected papers to their series on contemporary men of science. One must applaud the invitation, for Professor Boring is an interesting person and one highly literate. Moreover, the tensions which make him interesting relate to important psychological issues and central issues in the conception of man. Anyone who has been concerned even tangentially with psychology during these past decades must find the reading of this book a delightful experience.

To psychologists familiar with *A History of Psychology in Autobiography*, the substance of Boring's autobiography will be familiar: the lonely boy in a family of women, the "Orthodox-Hicksite-Quaker-Moravian strains," the energetic young "mesomorph with a Sheldonian somatotype of 4-5-2," engineering at Cornell, teaching at a Moravian parochial school, returning to Cornell for graduate work with Titchener, experience with psychometrics during World War I, the years at Clark, the first decade at Harvard culminating in the *History of Experimental Psychology*, the 1930s and his psychoanalysis, the war years and their aftermath to 1950. Even so, Professor Boring has used the expanded version that he had to condense for the *History in Autobiography*, and he has added two sections, one on the decade of the 1950s and one on perspective. They bring a culmination to his "felt" life with which colleagues and readers can readily identify.

To anyone who has enjoyed corresponding with Boring, the selection of letters is far too short. In these letters, Boring the spontaneous man speaks out on a variety of issues, psychological and social, which are of concern to all educated men. A letter to B. F. Skinner, written after Boring and his wife had finished reading *Walden Two*, is a piece of eloquent criticism restrained by respect and affection. A letter to Hans Sachs, his one-time psychoanalyst, concerning the analogy between organismic drive and physical energy, distinguishes clearly between the intuitional and experimental approaches to the understanding of relationships, enunciates the principle that "the analogy between A and B does not increase the probability of A's being true just because B is true, because you have to know first that A is true to know whether the analogy is valid or just a happy literary form." It also expresses Boring's "mistrust (of) the intuitional method because it does not mistrust the prejudices and bias of the observer." A letter to Lewis M. Terman tells of Boring's refusal to support the peace effort because he had other more promising things to do and thought "wise men ought not to let the intensity of a need affect their judgments about what to do about the need."

It is interesting that Boring, an avowed experimentalist, includes only one experimental paper, a synopsis of the work on the moon illusion which showed that the largeness of the moon perceived when it is on the horizon depends on the position of the eyes and the head and is reversed when one looks at the moon lying on one's back. It is especially interesting, in view of Boring's avowed opposition to intuitional analysis, that at least five of these selections are intuitional analyses of the causes of phenomena. One might term these logical analyses, but any strict definition of logical analysis would limit this category to a single paper on the logic of the normal law of error in mental measurement. His account of why women less commonly become prominent in the American Psychological Association than do men, his account of psychological factors in the scientific process, his account of the dual role of the *Zeitgeist* in scientific creativity, and his analysis of when human behavior is predetermined may all be seen as intuitive analyses. Readers who have not seen it before will find his account of the history of thought about consciousness ("A History of Introspection") highly valuable. His necrology for Titchener transcends the immediate concern and becomes a history of psychology at Cornell with general comments on the role of great teachers. His necrology of Terman contains not only a fascinating account of this interesting man, but also penetrating insight into the nature and origins of the testing movement in America. Had Boring's prescriptions for the selection and training of graduate students been rigorously followed, however, the membership of the APA would probably be less than a tenth of its present number. It was this paper that gave currency to the "80-hour-week" and "4000-hour-year."

Professor Boring has himself been an 80-hour-a-week psychologist who, in spite of objective success at an early stage of his professional career, turned in middle life to psychoanalysis in order to pass by nothing that might help in his "search for maturity." What were the sources of this drive and insecurity? In his discussion of whether his analysis was a success, with an answer from Hans Sachs, Boring recognized one source of his insecurity in his early loneliness and lack of playmates. He attributed his abundant energy to the mesomorphy which dominates his Sheldonian somatotype (4-5-2). Relatively few men with mesomorphy of 5, however, work 80 hours a week. Perhaps there is an alternative source. After seeing in the letters and the selection of papers the evidences of a man inclined somehow toward intuitive analysis, toward free decision, and toward strong feeling about causes, one finds in his autobiography avowed commitments, respectively, to experimentation, to faith in determinism, and to wisdom before action. From such a sample of antitheses, one wonders if part of Professor Boring's energy, and perhaps some of the insecurity, did not derive from what Festinger has called "cognitive dissonance." How did Boring's early life set the stage for embracing such antitheses? Was it simply the loneliness, the lack of playmates? Or was it imbibing the values and attitudes of his Quaker and Moravian parents and grandparents before coming under the influence of academic-papa Titchener? However it was, it is clear that in such papers as that on "When Is Human Behavior Predetermined?" Professor Boring has begun to achieve something like an Hegelian synthesis out of at least one thesis-antithesis. It is good that he feels some of the "maturity" he sought. He deserves his success, subjective and objective.

J. McV. Hunt
University of Illinois

Vann, G. O. P. *The Eagle's Word.* New York: Harcourt, Brace & World, 1961. Pp. 247. $4.50.

The Eagle's Word is a meditation upon the Gospel of St. John—which, it is to be noted, is itself a meditation. The Fourth Gospel has been described as a "work of supreme religious genius"—"the profoundest and most satisfying of all interpretations of the life of Christ." By the same token, Father Gerald Vann's interpretation and portrayal of this gospel is also highly satisfying and, in its own way, a work of religious genius.

The author explains how this book came to be written: He had been asked to paraphrase for children the prayers of the Mass. At first this seemed like an impossible task, especially "the last gospel," which is the Prologue to the Gospel of St. John. So successful was the effort, however, that he decided to attempt a similar paraphrasing of the whole New Testament book. *The Eagle's Word* is the result: "an individual and tentative portrayal of, and introduction to, the thought of St. John and the content of his gospel." As an admirable rendering of the essential meaning of the text of the Gospel (with a splendid introduction which is itself a gem of devotional writing), it gives the reader—to use the author's words about the Gospel itself—"a feeling of unfathomable depth."

The Eagle's Word is itself a reference to St. John's vision of Christ as the Eternal and Incarnate Word. "John, who brings us the words of the Word, embraces simultaneously in his eagle-vision earth and heaven, time present and the age to come, events as history and events as revealing symbol."

If the idiom of the author seems strange to modern readers, it is because the doctrine of the Logos has been strangely neglected in modern thought and in a great deal of recent theology. However, we only have to observe that *logos* is the combining word in such basic words as biology, psychology, and theology to be reminded of how inescapable this concept of *logos* is. Insofar as men seek meaning in life they are seeking the Logos, for "meaning is logos and the last resort is the Logos":

It was through the Word
  that all things were made:
through him life is given
  to all that is,
through him the light of understanding
  is given to all men.
For his life is light:
  a light shining out in the darkness.
And the darkness cannot master it.

The basic paradox of human life is found here; the *Logos* is the true light which lighteth every man that cometh into the world; and yet that light in man can become gross darkness. In the words of Jesus, "If the light that is in thee be darkness, how great is that darkness."

Then the author can say, "We live out our mortal lives in joy and sadness, in failure and pathos but also in eagerness and expectancy, because life is a *chiaroscuro*, the light and shadow of a world fallen yet redeemed, a world in which evil conquers but is conquered. . . . if darkness is the enemy, is evil and emptiness and the sterility into which Judas is plunged by denying the light, it is also, like the dark waters of the primeval chaos, the womb from which light and life must spring, it is fertility, it is what it was for Peter in his sorrow, the promise and potentiality of glory, of transfiguration into the light of a new dawn."

This is a very rich and rewarding book. It has a kind of transparency, making the eagle's vision available to men in our time. Moreover, it is catholic in the true sense, *i.e.*, not sectarian. It sets out the universal and timeless message of the Gospel in which all Christians may be united. It would make an admirable text for religion classes in secondary schools and colleges and for study groups in congregations. Incidentally, the typography of the text makes for rapid reading and quick understanding. It is a pleasure to read, and the author succeeds in his aim of encouraging readers to go on to "a deeper study and therefore a deeper understanding of the 'real thing,' the word of the eagle himself, and so of that vision of the Word which the Eagle reveals to us."

This book is "the real thing," and if it could become a textbook widely used, it might go a long way to remedy that fatal defect in the education of the men of our time who, in the words of the ancient apostle, "are ever learning, and never able to come to the knowledge of the truth."

Harold R. Landon
Cathedral of St. John the Divine
New York, N. Y.

Goodrich, L., & Baur, J. I. H. *American Art of Our Century*. New York: Praeger, 1961. Pp. 309. $15.00.

Many books are written for people who have a prerequisite grasp of art history. Goodrich and Baur have produced a book which, while offering much to the art historian, should appeal to persons with a newly developed interest and limited knowledge in the field.

The title, *American Art of Our Century*, may be in one respect a misnomer since the term "art" is now generally used to apply to a much wider range of activity than painting and sculpturing. Once the reader discovers this limitation in content, he is ready to comprehend the plan of the authors, which they state as follows:

". . . using works from the (Whitney Museum of American Art) collection, we will attempt to chart a course through the ever-changing movements and personalities in American art, from the first decade of the century to the present."

Prefacing his commentary on American painting and sculpture from 1900 to 1939, Goodrich describes briefly the state of affairs at the turn of the century, when the United States art world was under academic control and the chief limitation of expression was the basic philosophy of naturalism. He points out that the first decade of the twentieth century brought fundamental changes more revolutionary than any in the preceding two and a half centuries of art in America. He discusses the influence of the nature of the country on art, as does Baur in dealing with the period from 1940 to 1960. Goodrich writes, "This modern America in all its grandeur and disorder, its strength and grotesqueness, was now for the first time observed by artists, by men of visual sensibility, with eyes experienced in the ordered beauty of art."

By limiting the chronological and geographical scope of the book, the authors have been able to say enough about each painter, sculptor, or movement to make the descriptions truly informative and indeed enjoyable. For example, Goodrich ends his detailed description of Edward Hopper's painting, "Early Sunday Morning," with the following commentary: "The vastness, monotony, and loneliness of the modern city have seldom been more intensely expressed. But the final emotion is affirmative: clear morning sunlight, stillness, and a sense of solitude, penetrating yet serene. With all of its objectivity, the picture is pervaded with that poetry of places, of man's cities and structures, which has been a theme for artists through the centuries, from Piranesi to Chirico."

Precise statements pinpoint ideas which have been expressed vaguely by many other authors. Baur, in his discussion of surrealism, says, "It is apparent that surrealism is less a style than it is a program and a method. Its program is a serious search for the material of art in the subconscious mind, in dreams and hallucinations, in the irrational and atavistic layers of being. Its method is the most spontaneous possible transference of the images uncovered to canvas without consideration of form or design (automatism)."

If we want to understand the American art of our century or, indeed, the art of any time or place, we would do well to ponder the words of the artists themselves. In their book, Goodrich and Baur, drawing upon their correspondence and Museum files, have quoted generously from statements artists have made in explaining their own aims and methods. Accounting for the transformation of his method from realism to the exploration of basic form, for example, John Sloan is quoted as having said, "Works of art are made of wood and bronze and oil paint, not flesh and blood."

Among their qualifications for writing about American art of our century is the authors' association with the Whitney Museum of which Goodrich and Baur are Director and Associate Director, respectively. The Museum now has one of the largest public collections of twentieth-century American art. The fact that the book contains a complete catalog of paintings and sculpture there gives it special value for some readers.

American Art of Our Century is available at a time when educators at all levels are becoming increasingly aware of the need to evaluate the importance of the contemporary arts in the educational program. Too often this is attempted without a basic understanding of the role of art in society in general. In their handsome, scholarly volume, Goodrich and Baur have given us a pleasurable means of fulfilling this need.

MARY B. SWYNEHARDT
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DEREK J. DE SOLLA PRICE
Yale University

Two cultures—and one historian of science

BEFORE THE BIRTH of the students we now teach, the world, it seems, was a different place for science to live in. In those prewar days, the scientist had not conceived the highly original sin of atom bombs. Ignoble, savage serfs in cossack costume fell on their knees before milling machines, and there was no Sputnik.

For the historian, and for the humanist in general, science was just one column among many in the colored patchwork chart wherein we tabulate the rise and fall of civilizations. It is not much more than a century since we began to enlarge this chart. First, it had been solely the kings-and-queens-and-battles sort of history: diplomatic, military, and constitutional. Then came religious history, histories of art and music, economic history, the history of thought, and the history of science, each slightly enlarging the universe of discourse, each spinning a bright thread of a new color which intertwined with the rest to complete the picture.

Thus, between the wars, history of science had the status of a side branch of the main stem of history, already split by specializations into the histories of special areas—America, Europe, and Bulgaria—and special periods—Classical, Renaissance, and eighteenth century. Some of the great general histories began to have little sections inserted, dealing with the record of science. In the whole world, some two or three universities decided that they could afford to have one professor who made this subject his business.

So we historians of science grew into a profession. In a few of the great universities, there we stood, with as much right as the teacher of Semitic epigraphy or of Byzantine economics. If the history of science had been arrested at this stage, I should now represent a rare specimen of that variant sub-genus of the species historian. It is nothing I would be ashamed of, for truly there is nothing wrong with being an historian.

The Boiling Pot

For better or for worse, neither science nor the history of science stopped there. The pot of science that had been boiling for three centuries began to bubble over with its nuclear forces and orbital satellites. Suddenly, we began to realize that science and its associated technologies had absorbed a large part of the nation's wealth and much of the cream of its manpower. Science held the pursestrings of political, military, and economic power. The comic-strip Superman split his chrysalis, in which he looked so much like an all-American football player, and emerged like an all-American nuclear physicist.

At this point, most of our contemporaries will stop. It needs no laboring, one feels, to see with Herbert Butterfield that modern science and technology have unleashed forces that alter qualitatively the patterns of military and economic power. To the world historian, it is plain that they are sweeping whole areas of the globe and great reservoirs of humanity that were hardly marked by the concepts of Athenian democracy, by the religious flames of Christianity and Islam, or by the emergence of capitalist economics. Physicists from Accra and Little Rock, from Peking and Dubna, from Liverpool and Istanbul, all have the same universe of discourse and see eye to eye in their own subject with a sympathetic homogeneity that could scarce exist between two humanists of the same subject, same department, and same age.

I *do* labor the point, for what appears to be a new age that has dawned seems to me to be but the first skirmish of the new revolution. The new scientific age is as dark to us now as Khrushchev's country would have been to Marx or the Tennessee Valley Authority to Davey Crockett. Never has any rebellion been so well planned or so long in its first phase of infiltration as has the new scientific revolution. For a century, the scientists have been conscious of the existence of their secret weapon—an inexorable and almost superhuman capacity of science to grow and nourish itself in a cumulative fashion that makes it outdistance conventional forms of learning.

What is this weapon? I believe it is the important element that came into our intellectual life and split us into the two-culture system that has now been canonized by the "abominable Snowman." It is the element that was perceived in the German universities of the early nineteenth century and the British universities in the late nineteenth, when scholars heard the thunder of the scientific PhD and saw stinking laboratories sprout like mushrooms in college cellars. They knew then in their hearts that this was a finish to all that the cause of higher learning held dear. In Giessen and in Edinburgh they read the message clearly, and ever since, deans and college presidents have legislated around it. Nevertheless, at the beginning of that century of change, only a few per cent of university faculties were scientific, and now, at the end of it, the teachers, students, scholars by any definition, are almost equally divided between those who live in the scientific culture and those who do not. How did it happen?

Model from Fiction

One of the most impressive themes in science fiction concerns the multiple brain switchboard. A scientist develops a method for taking thought-waves out of the brain in wires and for re-injecting them into another brain. With his assistant (who is female, but only because the book jacket dictates so), he then tries the effect of joining his brain to hers so that they function together, swift as thought, without the impediment of words and with the ability to draw on a bank of double content in memory. The experiment works, and, though the girl adds but little, the double brainpower is sufficient to concoct the ultimate scheme of so joining a dozen genius brains, thinking as one and able (of course) to solve all the great problems of science and (incidentally) to master the world. With the problems of science disposed of in the first day of work and a utopian world government created and empowered in the second, the story usually finishes by mere literary device. One of the genius components—a Schweitzer type—cannot stomach the incipient megalomania and pulls out, leaving the multiple organism permanently damaged by schizophrenic shock. Or the girl assistant, now forgotten, gets jealous and feeds the multi-brain AC instead of DC, reducing it to the consistency of royal jelly.

That story is one of the few main lines of science fiction that have not been destroyed by becoming fact. My purpose in relating it, however, is to suggest that this is somehow the way that science always works. In effect, science behaves as if it were conceived by a multiple brain, whereas the humanities have been fashioned and refashioned by single men. The scientist, feeling that his personality and inspiration are sunk in the common aim of objectivity, values mightily all claims to intellectual property and the eponymic fame of being Mr. Boyle of Boyle's Law. The humanist, on the other hand, knowing that his illumination of the affairs of men is peculiarly personal, inalienably the product of his own mature selection from his heritage, is correspondingly anxious to orient himself by some current that transcends his own personal understanding. He may be a positivist or a tractarian, impressionist or of the school of Ranke—or of Rilke. Thus, single-brain has an element of cumulation around him. He builds on the work of others and is carried along by the *Zeitgeist*. In most areas, however, this cumulation is somehow much less intense than that of science; when it rises to the same pitch, I suppose we begin calling his labor "social science" rather than "history." The essential difference between the attacks of the scientist and the humanist lies not in dignity, in hard work, or in originality. Having written theses in both, I know only too well that it takes the same perspiration and inspiration in history as in physics. The difference is only in the tempo that enables a scientist to work with his contemporaries, whereas the humanist indulges in what kindergarten teachers call "parallel play."

These, then, are our two cultures. Of the two, I am driven to this conclusion: the humanist is in the ancient tradition of human thought, and the scientist is something strikingly new and different. The essential nature of the difference is not particularly one of subject matter, strange as that might seem. In another world, the intimate structure of nuclear forces might have evoked no different an attitude of learning than the intimate court life of Rudolph II. In this world, however, the scientists, through various difficult and historically uncertain devices, managed to use the objectivity of science and its well-ordered structure to remarkable effect.

One Mind and Many

In brief, what happened in the mid-seventeenth century was the invention of the device of the scientific paper. It was the idea that one could contribute even a single innovation quite independently, separable from the rest of the body of science and insertable into it by letting it rest on the work of others. Each brick of science stands on other bricks and is in itself a foundation for still more. As soon as the young scientist has burrowed his way through the tight-packed accumulation of science and has emerged at the research front, he can lay his own bricks, and throughout his life he can share the labors of building with those around him. The humanist, insofar as his work does not partake of science, has no such technique. He sees the same old problem through a new kaleidoscope. By the time he has spent his youth working through the great writers of the past, he is cast up as a lonely mariner on a desert isle, and he must let his powers grow and his knowledge mature until he can form the sum total of his experience into a new work of achievement.

The humanist is thus bound by the powers of the single human mind. He can only learn so much and then must leave himself time over to mature that knowledge and cast it up in new shape. The scientist, by his technique of *divide and rule*, by his many-brain cumulation technique, can bite little pieces and create new knowledge in fragile quanta. The price paid by the scientist for his multiple brain is that he can only be appreciated by this brain. Science must become esoteric in a way that the humanities need not. One man, if he gives enough of himself, or is forced by education to give enough, can, within his own intellectual limitations, follow through the single-man production of any of the humanities, or even of several. If a great single mind makes a symphony, a poem, a novel, a work of history, or a scheme of philosophy, he can be followed by many men who need not have his creative spark of genius or be soaked so deeply in so much of the ambient culture that matured to produce these works.

But the multiple mind of science is itself its only true appreciator. Only those who took the ball from Newton and threw it further really knew what Newton had done. Only those near that part of the research front that deals with strange particles know this subtlety from the inside. Only those who have used the second law of thermodynamics can contain this in their culture. One may popularize it for the masses, but this is like giving a synopsis of the plot of *Hamlet* as an understanding of Shakespeare. Science consists of a world orchestra that writes its own symphonies, and you cannot be admitted to the concerts unless you establish competence as a composer, and perhaps also as a performer on your own chosen instrument.

Divorce by Cumulation

The basic problem of our two cultures is that we are faced, not with their marriage, but with a particularly unfair divorce. The many-brained scientist, outside his sphere of competence, becomes a lay member of the order of single-brains, but poor little single-brain can never do more to Mr. Many-brain than squirt DC into his AC supply. Physicists may flock to concerts and hang Picassos on their walls; with the rest of us, they vote enthusiastically and passionately argue soul. But few poets or philosophers or historians can be inspired by any but the rather trivial epiphenomena of modern physical theory.

Before about 1660, when science learned to cumulate, it was still a single-brain pursuit. Galileo Junior could converse with all intelligent Florence as had his father, the music critic. Science was part of the general flow of culture, and his say cost Galileo the Catholic equivalent of a Senate hearing. After 1660, little by little, science was removed from the universe of the single-brained, but not until early in the nineteenth century, perhaps about 1830, did the divorce become essentially final. For the century of industrial revolution that ensued, Mr. Many-brain played his secret scientific symphony in the background, while the foreground was occupied by an army of engineers, Edisons and Fords and Wilbur Wrights, whose mechanic training was in the bicycle shop. They were brilliant, these engineers, with brains at the tips of their fingers, but they seemed far removed from scientific discovery. Only with historical hindsight do we see now the symbiosis between the technology and science of that age.

It is only in this prewar atmosphere of a little scientific gypsy orchestra in the background that it made sense to have science as one of the many activities of men that should be recorded in the complete historical patter. In parallel columns that show the cultural climate of the Victorian age, we can put Lord Tennyson on one side and Lord Kelvin on the other. A good historian, seeing science rise so much faster and in many ways more sure-footedly than the other culture, could perhaps have seen it coming. Some, like Henry Adams, did so, but they were not taken seriously. Now, since the war, it has burst upon our consciousness that man has been cast into a new age, and that the music of science is our living pulse. Science has swallowed technology, and technology has swallowed many of the things men did with their hands and some they used to do with their brains.

Curiously—and tragically in an age traumatized by megaton and capsule—the prophecy has not been fulfilled that the culture of the scientific many-brain would lead us into a state of technocracy. The would-be technocrat, as he turns from the machine to the world outside, becomes disconnected from the brain and is on his own, level for the most part with all other single-brain thinkers and humanists, often naive in his unaccustomed role as a soloist.

At the same time, it has appeared that the older, single-brain culture has failed, and over the centuries failed increasingly badly, to cope with the manifestations of many-brain. It is also patent that all our culture, though perhaps more sophisticated than ever before, has not made man wiser, or kinder, or more humane. One can never forgive or forget that the country which produced the best seminars of history and philosophy, deep culture and learning, also produced the storm troopers and atrocities reflecting the crudest animal spirit in man.

Technocrat or Humanist?

Now that science has become the chief determinant of world civilization, it would seem that we have only two chances for directing a future that already seems radioactive and nebulous. Either we must educate the scientist so that technocracy becomes possible, or we must take the humanist and plead with him to take the whole armory of weapons used over the ages to examine all that was uppermost in the lives of men, and turn them upon the new force of science. The President-after-next, and perhaps many of his Senators and Congressmen, will have to be drawn from one of these two classes. In England and America, less than two per cent of all politicians have scientific training. In the USSR, some 20 per cent of the Supreme Soviet have lived with many-brain. Certainly the functions of these legislatures are different, but the Russian experience may be some indication of our own future.

There are signs already that both solutions are coming into being willy-nilly, without much conscious direction. Although the scientists of our country have not become technocrats properly speaking, they are beginning to find themselves not unwilling to assume the glamor of Washington. Although humanists are still not on easy terms with orbital velocities and meson production, more technical background noise is entering the common discourse via the public press.

At a more formal level, there has been much attention to the problems of specific training for these two complementary tasks. For the scientist, there are now several books and courses on the administration of laboratories and funds, on the engineering of scientific literature and bibliography, and on the legal and political negotiations implied by our new "Big Science." For the humanists, there has been a long, and on the whole, miserable, development of courses designed for "general education in science." Both attempts may be worthwhile, but they are surely not the best we can do. We need scientists who know what the rest of mankind thinks of human good and evil, rather than those who can balance their laboratory account books. We need humanists who can understand the springs that move the modern scientist and, let us say, his interactions with the world of technology; only at a lesser level do we need humanists who happen to have read the second law of thermodynamics together with the verbal (and therefore inadequate) definition of entropy.

It is, of course, in this new effort of humanizing scientists and scientizing humanists that our subject, the history of science, has found a sudden mushrooming into importance. It has now grown so that there are eight reasonably large graduate schools of it in the United States; and at some 40 other colleges, proper undergraduate courses are offered, sometimes to historians, sometimes to scientists, sometimes to both. There exist summer schools and journals, bibliographies, and a veritable forest of paperback books. But in the course of growing, our subject has changed vastly to become something even more important than a parallel column within the time chart of history.

Humanist Irresponsibles

To us now, history of science connotes not just who did what and when, but the whole vast area between the sciences and the humanities. We think it insufficiently humanizing for the scientist to be given a place, a date, and an anecdote for Planck of Planck's Constant, as so often happens in a so-called historical approach to a science course. Neither is it ample meat for the historian to mention lightning rods apropos of Franklin, or that Lavoisier was another victim of the guillotine. This, for us, is not crossing the bridge between the sciences and the humanities; at best, it is sighting a distant landmark on the other side. In any case, the trouble with the bridge analogy is that what matters is not the crossing but what you do when you get to the other side. Physicists can quite often read and write poetry, and history students can be told about the wonders of genetic coding; but in neither case do they bring their professional expertise and culture to bear on the new field.

I feel that there has been a gross and almost fatal dereliction of duty by the humanists. Even as late as the end of the eighteenth century, science was an integral part of the world of culture. Only when the scientific specialist made his university appearance in the early nineteenth century did it cease to be so. The fault lies almost entirely with the humanist. There is no good reason why humanists should have decided to leave science so completely to the scientists. There is no good excuse for a century of pussyfooting refusal to turn the tools of humanistic understanding on the things that science is doing. One does not leave politics to the politician or economics to the business man. One does not avoid discussing literature because one has never written a book or poem. Indeed, in the humanistic tradition, it is the expert function of each scholar to be the analyzer and the critic, the viewer in perspective, rather than the executive agent.

Because of this, I view our field as being, roughly speaking, the history and philosophy and sociology and politics and psychology and everything else humanistic *of* all the sciences, technology, medicine, etc. If science and its perquisites of office have become the very growing-tip of man's civilization, the determinant of all his chiefest ambitions, then the analysis of this science is the most important job for the humanist and the educator. In an age when science has become the key to power of the most powerful nations, the key to aesthetic experience of so much of our high-IQ manpower, the setting for so much of our daily life, its being brought within human understanding is of more concern, perhaps, than all the rest of man's activity together. The history of Science thus becomes not the most important section of the complex of different brands of history, not even the main stem of this history, but a whole new art in itself.

A New Arts Utility

What is the nature of this new art, and what can we do with it? Suffice it for the moment to say that already we have found it has special techniques and procedures. We need, as exponents of it, people who can master both the ways of life of the scientist and those of the humanist, and who can, moreover, learn, for example, methods of treating documents that appear at no former time in scholarship. What we can do with it is perhaps the most exciting thing of all, and I have now a payoff of radical suggestions to make.

My principal suggestion is that we might well cut from the school syllabus some half or three-quarters of the science program, including all laboratory instruction, and devote the time and energy thus saved to teaching by historians (and other humanists) about science and the way it works as a human activity. The same method should be practiced in the colleges—or at least in that part of them allowing for the liberal education of scientist and humanist alike.

I readily admit that the basic principles of all sciences—their methods, arguments, and definitions—have the status now of fundamental techniques. All citizens must be exposed, and the exposure must be as efficient as one can make it. Fortunately, thanks to Begle's project in mathematics, and that of Zacharias in physics, and sundry others, the teaching methods and syllabi are so much improved that qualitatively different results can be attained. But after basic training, I feel we must stop this thread, or at least give priority to *talking about* science rather than attempting to do more of it. Our scientific educational system has grown up in such a way that more than 90 per cent of our citizens are treated as the waste product of a machine for training the less-than-10-per cent who are going on to make use of their scientific background as active scientists. A generation ago, this was not so bad. A boy could dissect a frog, do a Boyle's Law experiment, perform a simple inorganic analysis, and one could then say with assurance that this was not just scientific method but the sort of thing working scientists did in their daily lives, merely slightly simplified. Today, this is a hopeless sham. The life of a modern mathematician is not composed of very, very difficult quadratic equations. The atomic pile is not a Boyle's Law apparatus grown big. To exhibit modern science in any effective way, one cannot waste time attempting to do it. Nor can one happily adopt the general-education idea of making the science teacher a human edition of the *Scientific American*, that way lacks the honesty of scholarship, for the cunning child detects only too quickly any such popularization.

Thus, we may appropriately cut off traditional scientific training after the three-Rs stage, except as a subject of specialization for those who intend to be scientists. This should be a relief to those college instructors who complain of spending the first year *un*teaching the "science" learned in high school.

Perspective on the Modern

The crucial question now is whether it can be possible that the historian—or, at any rate, the humanist of science—can talk about science in a more meaningful and more educative way than can the scientist popularize his own wares. Here another not obvious claim must be made for history of science—that is, that its relation to modern science is almost that of the classical world to the Renaissance. It is paradoxical, for science is such an essentially modern thing. Half the science we now know has been achieved in the last fifteen years; of all the scientists who have ever been, more than 90 per cent are now alive. Yet Galileo and Archimedes, Harvey and Lavoisier, are perhaps more important to the understanding of how modern science works than are Fermi, Oppenheimer, or any contemporary.

In traditional modes of history, the sensation of dealing with strange people and unfamiliar ways eventually begins to disappear as the centuries pass in review. Somehow the objectivity of science combines with its many-brain method of cumulation to keep the salient point essentially fresh. Newton, properly understood, still walks this scientific world, and so does Archimedes. In their work they are not strange. On the contrary, historical perspective allows us to see through them basic scientific issues, relations between man and science that can be but dimly seen in current scientific affairs. The study of Roosevelt may be more illuminating to the present than Charlemagne, but for us the observatory at Samarkand may tell us more about scientific organization than the laboratory at Brookhaven.

At this point I am often asked if historians can really do this sort of thing without knowing a great deal of science, or without even having been a working scientist. The answer is certainly yes, provided that they are good historians in the first place, unbeset by irrational fears of mathematics, and willing to take the same trouble with history of science that they might take in acquiring a proper knowledge of source documents and current trends of criticism in any other region of history. As proof, I offer you the examples of Herbert Butterfield's *Origins of Modern Science* and A. Rupert Hall's *Scientific Revolution*, both available in paperback editions. Can this subject be taught in high schools? I recommend to your attention the remarkably fine case histories published experimentally by Leo E. Klopfer of the Harvard School of Education.[1] Can one actually train historians of science in the quantity that will be needed, and must they be historians or scientists? By next year, in our school at Yale, we shall have a round dozen in training, a mixed bag with assorted backgrounds. From those produced in other schools, it seems that the experiment works extraordinarily well, and I imagine *we* shall do even better!

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[1] There are now nine *History of Science Cases for High Schools*, published in cooperation with the Department of School Services of Wesleyan University, Middletown, Connecticut.

What can an already established history teacher do—or even the interested teacher of science? I recommend the reading of some real history of science—not the old-fashioned, prewar texts, but some of the modern criticism: Butterfield and Hall and (if you will pardon my plug) my own *Science Since Babylon.* I recommend that one keep a watchful eye for the relevance of scientific happenings that may formerly have been regarded as only a sideshow, or as cultural overtones. Do not forget that our children live in an age preoccupied by science, many of them surprisingly inspired by space and countdowns, overawed with the imminence of fallout, and delighted with the newfound mechanism of life forces. They do not remember the trial of Oppenheimer, but that of Galileo is at your elbow. They may think that Einstein merely proved that everything is relative, but Newton's concept of force can be seen as the provocation of much eighteenth century thought and nineteenth century technology.

We are the product of a system that segregated the two cultures and set apart many-brain. It is vital for our culture that tomorrow's scientists do not become humanized solely by Picasso and Beethoven, but by history directly relevant to their lives and work. It is also vital for tomorrow's humanist to be not so lost in this scientific age as are we. To desegregate the cultures, one must make a superhuman effort to put oneself in the other man's shoes. But that is exactly what good historians are best at, and therefore I have hope.

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Can we apprehend science?

ARE MOST EDUCATED PEOPLE nowadays grossly ignorant of the physical and natural sciences? If they are ignorant, does it matter? And if it does matter, what can we do by way of remedy? Discussion of such subjects has flourished these past three years and more, but often the debate has been superficial in character, perhaps because of the shallowness of the Rede Lectures by Mr. C. P. Snow (now Sir Charles Snow) that opened the argument.

In a few thousand words, I essay three tasks: first, to suggest that ignorance of scientific disciplines and terminology, though regrettable, is not so general nor so profound as some people declare it to be; second, to argue that though this ignorance raises problems, the real difficulties are not those advanced by Snow and his set; third, to offer recommendations for alleviating the disturbing conditions.

Inevitability of Ignorance

In order to know anything, said John Henry Newman, we must resign ourselves to ignorance of much. The imperial intellects of old—Aristotle, Aquinas, Bacon, Pascal—more nearly comprehended the body of learning of their times than can modern scholars; yet we ought not to think even of these men of genius as walking encyclopedias. Where technique, rather than first principles, is in question, the philosopher never has been omniscient. Aristotle presumably would have cut a poor figure had he endeavored to compound cosmetics for Greek ladies (among the Greeks, chemistry being the province of base mechanics, not scientists), and Bacon might have failed as master of a tan-yard.

So it is vain to reproach the leaders and decision-makers of modern society for having an imperfect command of the immense body of modern technology. If, in medieval times, every guild-craft was a "mystery," beyond the ken of prince and priest, surely one need not marvel that the vastly more complex applications of modern science have not been mastered by politicians, men of letters, and moulders of public opinion. Since the worker in one realm of technology usually is ignorant enough of the skills in another field of applied science, one hardly can expect men of the humane and social disciplines to judge authoritatively in matters of engineering, industrial production technique, or new armaments. Richard I did not have leisure enough to experiment with the forging of Damascus blades, and President Charles de Gaulle has other concerns than the relative merits of particular testing devices of the French atomic research staff. No way ever existed to crowd into the brief span of human life an acquaintance with all skills—even though Peter the Great essayed this—and no such way ever can be attained. Where technique is in question, the leaders of society—let alone most of us—must rely upon general principles, expert advice, and examination of practical consequences.

A quick and penetrating intellect, indeed, may grasp sufficiently a particular technique, in case of need, by intense though abrupt application—supposing that intellect to have been grounded previously in both scientific approaches and in the exercise of the higher imagination. Emphasis upon genuine education—upon systematic development of the intellectual faculties—rather than the vain endeavor to burden the brain with a crushing load of facts about myriad techniques, offers us our chief hope for governing competently our modern scientific and industrial and technological upheaval. Mere technical training cannot suffice; yet the union of humane learning with scientific methodology remains within the limits of possibility.

From Gadgets to Wisdom

Sir Charles Snow, however, laments that "literary intellectuals," political leaders, and most other folk have not come to terms with the industrial revolution and modern technology. While this reproach might have been a just one a century ago, its ring is curiously archaic in 1963. Even before the middle of the nineteenth century, the masters of the state were abandoning the old political and moral disciplines in favor of a preoccupation with utilitarian concern. Chateaubriand, after commenting upon the far-ranging talents of seventeenth-century statists, concluded, "But nowadays the statesman understands only the stock market—and that badly." In 1963, there exists little peril that the man at the top, or the man in the street, will pay too little heed to the latest gadgets; on the contrary, what they neglect is wisdom, including the art of worldly wisdom. Limitless enthusiasm has been generated for putting a man in the moon, but only obdurate gadflies still ask, "To what end?"

If, nevertheless, men are projected to the moon, or if diesel-powered ships are supplanted by atomically driven vessels, certainly our makers of decisions must know something of the character of these changes and of the means for controlling or directing them; and our critics of ideas and our imaginative writers cannot well leave technological change out of account. It is much to be desired that twentieth-century statesmen emulate John Quincy Adams or Lord Salisbury in their lively understanding of scientific progress; it is even to be wished that men of letters might share Tennyson's interest in industrial innovation.[1] Truly, things are in the saddle in our era, and if mankind is not to be ridden by its own machines, the higher imagination must concern itself, in part, with the giant computing machine and the cobalt bomb.

Technology being the bastard child of pure science, a parental resumption of interest in this natural offspring may be obtained through application to scientific principle by our men of intellect and will—though the brat cannot be chastened by science alone. In fine, I am all for really scientific understanding, and the improvement of the teaching of science in our educational establishment.

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[1] But one cannot expect the poet ever to become a technical expert; the poet, too, must give primacy to his own art. When, after his first railway ride, Tennyson wrote of "the ringing grooves of change," he labored under the illusion that the wheels of locomotive and carriages ran within flanged grooves. To have sacrificed *The Passing of Arthur* to a greater mastery of technological detail scarcely would have brought closer even that bourgeois-egalitarian future so smugly commended by Sir Charles Snow, middlebrow naturalistic novelist.

Nor is this imparting of true science to a great many people—including "literary intellectuals" and politicians—a fantastic aspiration. The dimming of nineteenth-century hopes for a reconstitution of human nature and society through passionate application to scientific doctrines and techniques ought not to cast us into the opposite error of considering the average intellect hopelessly impervious to science. Brougham aspired to exorcise, through popularized science, the "evil spirits of tyranny and persecution which haunted the long night now gone down the sky"; Sir Robert Peel declared that knowledge of physical science would confer upon the dying "pleasure and consolation." Such rodomontage of vulgarized scientism has gone down the way to dusty death in company with Victorian meliorism generally—or should have, though it still echoes on the lips of this or that zealot for the Empire of Science. But the abandonment of utopian claims need not deter us from imparting to reasonably intelligent people the rudiments of scientific disciplines—and with such knowledge, the possibility of putting man back into the saddle.

Limits and Possibilities

Let me observe, parenthetically, that I am very well aware of the difficulty of persuading people of a poetic or historical cast of mind to address themselves to the natural and physical sciences—for it is my own difficulty. To read Aquinas is as hard for me as it is pleasurable to read Dante; to study Newton is a chore, though to keep company with Swift is a delight. Nor am I suggesting that we can cure all the ills to which flesh is heir by making the masses scientifically-minded; rather, in Newman's phrases, "The heart is commonly reached, not through the reason, but through the imagination, by means of direct impressions, by the testimony of facts and events, by history, by description. Persons influence us, voices melt us, looks subdue us, deeds inflame us. Many a man will live and die upon a dogma: no man will be a martyr for a conclusion." These reservations notwithstanding, application to genuine science is possible for nearly all reasonably endowed minds if the disciplines are imparted soon enough; and the gulf between "the two cultures," scientific and humane, is not yet unbridgeable. William Butler Yeats, so detested by Sir Charles Snow, was more capable than are most engineers of envisioning the mysterious reaches of our new quantum mechanics, and the editors of *The Bulletin of the Atomic Scientists* know that poetry is worth more than push-pin.

So far as the physical and natural sciences are concerned with general ideas and the pursuit of truth, men of humane and social studies still can be interested in the sciences and can profit from them. Even I can. Nor, decayed though scientific understanding may be in such quarters, is the average non-scientific mind as yet altogether unable to understand scientific vocabulary and aim, granted a little painful application. But the science must be genuine—not scientism or simple technological aggrandizement. And if "science" is converted into ideology, a substitute for philosophy and religion, then rightly men of humane and social imagination will recoil from the fraud.

On Misreading Science

In our time, the principal contributions to knowledge have been made in the physical and natural sciences; to be ignorant of science, therefore, is to neglect whatever the men of the past hundred years and more have added to human wisdom. And, as I have suggested already, a competent knowledge of science is necessary for the control of that technology which is science's progeny. These are our true reasons for serious study of science: for wisdom's sake, and for self-defense against *Brave New World* and *1984*.

Sir Charles Snow (*8*), however, and gentlemen of like mind manifest small desire for the wisdom that one seeks through pure science; nor, looking upon modern technology, industrialism, and social change wrought through scientific discovery as positively advantageous, do they have serious misgivings about the future condition of mankind (supposing that war can be avoided). Though Snow recognizes perfunctorily some virtues in "traditional culture," his heart clearly yearns after "scientific culture": that is, after a science-oriented, technology-dominated civil social order, managed on rationalistic principles, and no nonsense. In this "scientific culture," poverty will be abolished throughout the world, over-population will have been eliminated, and there will be no danger of a nuclear war. Also, one gathers, "anti-social" and "reactionary" elements, like our most eminent men of letters in this century, will have got lost in the shuffle. Sir Charles thinks (*8*, p. 44) that (communist) China is well along this happy road to the joyous life of scientized society, getting over the industrial hump between the poor countries and the rich.[2]

So what Snow pursues, it turns out, is not science for the sake of science, but scientific technology for the sake of scientism. With Bacon, he looks upon science as a source of power over man and nature. His "scientific culture" is the ideology of rationalism. Despite all the penetrating criticism of scientism by real scientists and other scholars in recent years, a dogmatic confidence in the omnicompetence of science, held with all the quasi-religious zeal of Comte, lives undiminished in some members of the older scientific generation like Snow.[3] He sounds like H. G. Wells before Wells's disillusion set in. Smug in this positivistic scientism of the 'twenties and 'thirties, Snow sneers at George Orwell, with his reactionary (despite his being a Socialist) attachment to "traditional culture." Orwell's *1984* is "the strongest possible wish that the future should not exist." (Incidentally, scientifically considered, the future *does* not exist—except in imagination.) It is with some justice that Snow selects Orwell for antagonist; one has only to turn to Orwell's *Road to Wigan Pier* to find a denunciation of the "scientific culture" of the Future (as lauded by a gentleman of Sir Charles's persuasion) that might have been hurled at Snow himself, had Orwell lived long enough:

> . . . from that line of talk about "heaven on earth," you can make a fairly good guess at what he would like civilization to be; a sort of Lyons Corner House lasting *in saecula saeculorum* and getting bigger and noisier all the time. And in any book by anyone who feels at home in the machine-world—in any book by H. G. Wells, for instance—you will find passages of the same kind. How often have we not heard it, that glutinously uplifting

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[2] What scientific evidence does Snow provide to prove the prosperity of communist China in the face of the many reliable accounts of famine and industrial failure? Why, none. But the communist Chinese are science-minded, aren't they? And they've smashed the ancient literary culture of China, haven't they? Well, then—after this fashion the *a priori* reformer always has reasoned—how could scientific planning possibly go wrong? The wish is father to the "scientific" fact.

[3] For a trenchant and recent criticism of the scientistic ideology, see the volume edited by Schoeck and Wiggins (7). Two essays by Russell Kirk (*3, 4*) touch on the topic, and two articles by Glenn Tinder (*9, 10*) dissect the prevalent utilitarian view of politics that grows out of scientism.

stuff about "the machines, our new race of slaves, which will set humanity free," etc., etc., etc. To these people, apparently, the only danger of the machine is its possible use for destructive purposes; as, for instance, aeroplanes are used in war. Barring wars and unforseen disasters, the future is envisaged as an ever more rapid march of mechanical progress; machines to save work, machines to save thought, machines to save pain, hygiene, efficiency, organization, more hygiene, more efficiency, more organization, more machines—until finally you land up in the by now familiar Wellsian Utopia, aptly caricatured by Huxley in *Brave New World*, the paradise of little fat men. Of course in their daydreams of the future the little fat men are neither fat nor little; they are Men Like Gods. But why should they be? All mechanical progress is towards greater and greater efficiency; ultimately, therefore, towards a world in which *nothing goes wrong*. But in a world in which nothing went wrong, many of the qualities which Mr. Wells regards as "godlike" would be no more valuable than the animal faculty of moving the ears.

To Snow, Orwell and T. S. Eliot and Yeats and all sorts of other "traditional culture" folk are "Luddites," interfering with our wonderful machines that will serve us in the Terrestrial Paradise. Though many people think of Snow as a scientist himself, in fact he is a professional popular novelist—much inferior to Orwell or to Wells in that discipline—who long ago obtained a scientific degree at Cambridge. In the empire of science, Snow's principal achievement was administrative—recruiting scientific personnel during the Second World War. His view is more nearly characteristic of the bureaucrat than of the man of truly scientific passion, intent on discovering the nature of things.

Error and Rationalism

The cult of scientism ordinarily is as shoddy in its history and political theory as in its understanding of real science. Sir Charles Snow is no exception. Despite his concern with the problems of overpopulation, for instance, he confuses the relationships among child mortality, the industrial revolution, and the growth of cities at the expense of rural population. People like industrial life, he says (*8*), for "with singular unanimity, in any country where they have had the chance, the poor have walked off the land into the factories as fast as the factories could take them." In this cavalier fashion, he ignores the decline of infant mortality (produced by the improvement of medicine at the end of the seventeenth century and the beginning of the eighteenth) that caused the European population to rise abruptly in the first half of the eighteenth century, and so made industrialization necessary for clothing and feeding the new multitudes. The rural poor went to the "hell holes" primarily because it was a question of becoming factory hands, or starving, not a matter of volition. I select this one oversimplification, among many in Snow's writings, merely to suggest that the "scientific culture" which Snow eulogizes has no great regard for the stubborn facts of human history or even the stubborn facts of natural and physical science.

Despite all his concern to be contemporary—indeed, futuristic—Sir Charles Snow is an old-fangled rationalist, almost pre-industrial. The system he advocates owes little enough to twentieth-century scientific discovery, or even twentieth-century technology; but it is thoroughly rooted in eighteenth-century rigid rationalism.[4] His contempt for the "traditional culture" and his admiration for the material energies of communist Russia and China are part and parcel of this decaying ideology. Few writers illustrate better than Snow the description of the rationalist's view of education which we have from Professor Michael Oakeshott:

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[4] For scholarly and readable analyses of rationalism's eighteenth-century origins and its modern legacy, see Bredvold (*1*) and Oakeshott (*5*).

> From the earliest days of his emergence, the Rationalist has taken an ominous interest in education. He has a respect for "brains," a great belief in training them, and is determined that cleverness shall be encouraged and shall receive its reward of power. But what is this education in which the Rationalist believes? It is certainly not an initiation into the moral and intellectual habits and achievements of his society, an entry into the partnership between present and past, a sharing of concrete knowledge; for the Rationalist, all this would be an education in nescience, both valueless and mischievous. It is a training in technique, a training, that is, in the half of knowledge which can be learnt from books when they are used as cribs. And the Rationalist's affected interest in education escapes the suspicion of being a mere subterfuge for imposing himself more firmly on society, only because it is clear that he is as deluded as his pupils. He sincerely believes that a training in technical knowledge is the only education worth while, because he is moved by the faith that there is no knowledge, in the proper sense, except technical knowledge. He believes that a training in "public administration" is the surest defence against the flattery of a demagogue and the lies of a dictator. . . . The rationalist inspiration has now invaded and has begun to corrupt the genuine educational provisions and institutions of our society: some of the ways and means by which, hitherto, a genuine (as distinct from a merely technical) knowledge has been imparted have already disappeared, others are obsolescent, and others again are in process of being corrupted from the inside. The whole pressure of the circumstances of our times is in this direction. (5, pp. 32-33).

Well! If the "scientific culture" of Snow and his group means the destruction of our intellectual inheritance for the greater glory of "technique," if "science" is understood to mean an all-embracing ideology which supplants established modes of politics and the traditions of civility, if the object of science is the realizing of a future in which everyone will be just like everyone else—why, it is no wonder that men of humane studies and other nonscientific disciplines boggle at embracing the tenets of this intellectual creed. To be a Knownothing is preferable to being extinct.

Scientism and Science

I do not exaggerate Snow's advocacy of the hegemony of "scientific culture." In the moral life, he says, scientists are "the soundest group of intellectuals we have; there is a moral component right in the grain of science itself, and almost all scientists form their own judgments of the moral life." The world must be theirs—including the social scientists, of course, since they agree with Snow (at least the American ones do) in decrying literary and traditional culture. Nor must political constitutions be permitted to stand in the way of "scientific" grand designs for the betterment of the species: "People will ask me . . . 'Can you imagine a political technique, in parliamentary societies like the US or our own, by which any such plan could become real?' " Why, science must fix all that. The Russians have shown the way, planning their education altogether for material production. "They have a deeper insight into the scientific revolution than we have, or than the Americans have."

If indeed Snow's scientistic rationalism were true science, then we might well feel—in Henry Adams's phrase—like monkeys monkeying with a loaded shell, suspecting that it is going to hurt us. To indoctrinate the surviving nonscientific minds in the catechism of Science as the way to Brummagem Utopia would be the death of all other branches of the higher learning. And in the end, ideological scientism would give the quietus to pure science itself.

But modern science ought not to be judged by the utterances of its bureaucrats and vulgarizers. The genuine scientist of our time is not afflicted by Sir Charles Snow's *hybris;* he does not lay claim to the offices of priest, ruler, and artist. With some annoyance, even Snow remarks that many of the younger scientists, and most of the engineers, actually are conservative.

From the mechanism and materialism of much eighteenth- and nineteenth-century science, nowadays we are entering upon a natural and physical science which is something far better than the servile tool of technology. Physics is shading into metaphysics again, with Heisenberg's principle of indeterminacy; the coelacanth, that quick fossil, shakes the doctrinaire Darwinians. Exciting and mysterious, twentieth-century science truly is an integral part of liberal education, rather than a presumptuous substitute for religion, politics, and humane studies.

Why Science Attracts

As it was at its dawning, in Aristotle's time, today science once more is philosophical, and the wonder of Paracelsus resumes precedence over the aggrandizement of Bacon. Because it offers so much for the mind, science now attracts a disproportionate share of the more active intellects of the rising generation. Academic philosophy, for instance, at most universities and colleges, has succumbed to the death-urge of logical positivism; and professors of philosophy are reduced to keen mosquitoes who can demonstrate, to their own infinite satisfaction, the impossibility of making any satisfactory statement about anything in heaven or earth. What seeker after wisdom, this being so, would not turn to physics, rather than formal philosophy, for insight into being?

Similarly, the teaching of literature has fallen victim to primitivism and pedantry—to "communications skills," linguistics, arid philology, "creative writing," "contemporary literature," "world literature," and all the other boondoggles out of Pandora's box. In such circumstances, why wonder that the former students of humanities find astronomy or paleontology more poetic than Old Gorse?

Political science and sociology are given over to pseudo-statisticians and nose-counters; history, too often, has become the meaningless accumulation of petty detail. Clumsily imitating the natural and physical sciences, the humane and social studies have lost their old character without acquiring the high repute of real science. So science is king in the university, principally because it demands intellectual labor and often requires high imagination.

This vigorous science is not really an enemy to the other branches of learning—not even to theology, though at the turn of the century these two seemed bitterly inimical. If one reads so good a book as Dr. William Pollard's *Chance and Providence* (*6*), one perceives how far the scientists have come since the heyday of Darwin's bulldog.

Science and liberal learning ought not to be opposed to each other, as Snow would have them; and certainly the vestiges of literary culture ought not to be swallowed up by the technician masquerading as scientist and world-reformer. Humane and social studies ought to be integrated with scientific courses to the strengthening of both. I hasten to add that I do not advocate the pabulum of even more amorphous survey-courses. Already "Natural Science Survey 101" is destroying the virility of college scientific disciplines, and if we do not call a halt, the purported integration (actual hybridizing and dehydrating) of knowledge will end in one gigantic fifteen-credit course called "Human Learning" or "Man."

The Balanced Vision

Rather, a sound college education ought to be a strict and lively and harmonious arrangement of studies in real science and studies in genuinely humane subjects; and from this curriculum, the merely technical and vocational aspects of science need to be pruned, and the frivolous or pedantic aspects of "traditional culture" need to be rooted up. The same reform can be accomplished in the secondary schools. As a scholar of first-rate scientific knowledge and first-rate humane understanding, Alfred North Whitehead, pointed out, there is not room in the school day for everything that both the classical curriculum included and everything that the zealots of science would like. But the best of both fields can be preserved and strengthened to their common benefit, and Whitehead (*11*) makes some most practical suggestions.

It is no paradox that the decay—almost the death—of classical studies has increased the separation between scientific and nonscientific disciplines. The Greek and Latin roots of scientific terminology, for instance, made it possible for a man of humane schooling to understand most of the vocabulary of science—while he still had Latin and Greek. Now that the "nonscience" graduate is reduced to Business English and the newest Webster, scientific terminology all too literally is Greek to him.

In much else, science and humane studies need one another's counsel and sympathy. The natural and physical sciences require the humanizing and poetic influences of "traditional culture" if they are to be saved from the grim utilitarian domination—the death of imagination, on which scientific advance depends—relished by Sir Charles Snow. The humane and social studies require, in this their hour of desiccation, the vitality and reality of scientific inquiry. Out of love of learning, which is its own end, those of us who hold by traditional culture ought to acquaint ourselves with scientific thought; and, like the scientists themselves, we must restore the just claims of pure science if we are to avert the triumph of scientism and its social consequences.

This task, after all, is not really onerous. There are men of science who write most readably: Loren Eiseley, for instance. If we take up his *The Firmament of Time*, we find within it a powerful antidote to the dismal arrogance of Snow. Take this moving passage:

> Progress secularized, progress which pursues only the next invention, progress which pulls thought out of the mind and replaces it with idle slogans, is not progress at all. It is a beckoning mirage in a desert over which stagger the generations of men. Because man, each individual man among us, possesses his own soul and by that light must live or perish, there is no way by which Utopias—or the lost Garden itself—can be brought out of the future and presented to man. Neither can he go forward to such a destiny. Since in the world of time every man lives but one life, it is in himself that he must search for the secret of the Garden. With the fading of religious emphasis and the growth of the torrent, modern man is confused. The tumult without has obscured those voices that still cry desperately to man from somewhere within his consciousness (*2*, p. 140).

In the manifesto of Sir Charles Snow, one hears only the tumult of the torrent; the flood waters are out, and we are borne down to the Dead Sea. But in the words of a scholar of science who knows that intuition and tradition are quite as scientific as Univac, we perceive that systematic learning which is the natural partner of the sacred and the humane.

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On understanding our time: The history of science

To THOSE OF US WHO are middle aged or older, the advance of science within our lifetimes still has something of a "Gee whiz!" or "What *will* they think of next?" aspect. Despite our wonderment and our tacit acknowledgment that science is "a good thing" (*5*), we have some fears about the eventual outcome of science. We still retain the image of the bearded "mad" scientist who may someday discover a horrible death-ray, and we know, more soberingly, that nuclear science already possesses an enormous potential for destruction. Above all, to the layman, science remains a riddle wrapped in mysterious formulas, mathematical equations, and abstruse theories, and cloaked in a Rube Goldbergish contraption of retorts, test tubes, electron accelerators, and what have you.

The younger generation has few such qualms or reservations about science. Having grown up in an air-conditioned world, where doors open automatically when approached and where long-distance communication without wires and transportation on rapid wings are everyday occurrences, youngsters accept science as an ordinary fact of life. Twentieth-century American youth is much too sophisticated to be amused, let alone amazed, by magic lamps or flying carpets. The flying carpet, unlike today's space ships, was earth bound, and the modern magic of Research and Development puts Aladdin's lamp to shame. All we have to do is rub two production lines together, and we have fabrics made from wood shavings, but sheerer and more durable than those produced by the silkworm; colors produced from lumps of coal, but more beautiful than royal purple; perfumes made from foul smelling chemicals, yet more delicate than attar of roses, and a variety of foods and other products gathered from all over the world, including strawberries out of season and pounds of potatoes squeezed into a tiny box. Science has already far outstripped the imagination of writers of the old fairy tales and even of some modern science fiction writers. And the scientist of old—the strange, queer, unkempt genius—has now been replaced by an earnest, sincere young man, always wearing a spotless white coat as he appears on the television screen.

So great is the acceptance of science that it is considered a natural activity of education, industry, and government. Science, in other words, has become institutionalized within society: The managers of business corporations are no longer seriously questioned by their stockholders about expenditures for scientific research and development; youngsters are encouraged to enter scientific and technological fields; the supply of scientists is looked upon as a fundamental natural resource, and governmental expenditures for scientific research have now grown to the point where some scientists believe that the rate of discovery cannot be accelerated much more regardless of the money that industry and Congress are willing to invest.

The Near Religion

Yes, science has been accepted; and the scientist, far from being considered a "nut," is almost regarded as an oracle. Despite this acceptance of science, however, the general public still has no genuine understanding of science itself—its methods, its problems, its limitations, its accomplishments. Our acceptance of science is not really an acceptance of science itself so much as it is an acceptance of the *products* of science and an adjustment of our lives to them. We accept—and use—the results of science, but most of us remain in the dark about how and why these results were achieved. Science still remains a puzzle of mathematical tables and equations, the incantation of formulas, and the mystic rituals of the laboratory. It has become almost a religion, a faith which is not to be questioned but enthusiastically worshiped as it bestows its bounty upon us.

Perhaps it is unnecessary for the public to understand science merely because it uses its results; or, even if it should comprehend science, perhaps it is incapable of doing so. After all, modern science is extremely complex; even the scientist is hard put to understand its branches outside his own field of specialization. There is no reason to suppose, therefore, that everyone can understand science (*2*). By definition, half the population is below average intelligence, and the comprehension of science may well be beyond the mental capacity of a large percentage of the population.

The tragedy is that even among the "intellectuals" there is so little understanding of science. All of us are familiar with C. P. Snow's analysis of "two cultures," the scientific and the humanistic, which have lost contact with one another. "Our intellectuals, for the first time in history," says Gerald Holton (*13*), "are losing their hold on understanding the world. Of all the evils arising from the separation of culture and scientific knowledge, this bewilderment and homelessness is the most terrifying." If our literate laymen are divorced from contact with an elementary knowledge of modern science, we are running "the risk of half-culture, of superficial education (*1*)."

The widening gulf between the humanists and the scientists would be a tragedy for both. The increasing specialization demanded by the great advances of knowledge in modern times makes it imperative that the specialists rely upon one another. Yet just at the time when the interdependence of specialists is made manifest, we find them drawing farther apart, the humanist and the scientist unmindful and, occasionally, even scornful of one another. Unless our humanist intellectuals are brought to some basic understanding of fundamental scientific concepts and problems, we may reach the point where we lack a common cultural core "to give unity of thought and purpose to a society threatened with disintegration or despotism" (*9*).

Wanted: Wider Comprehension

The need for understanding science, however, is not limited to the intellectual. Ours is a democracy, and everyone, no matter how stupid or learned, has an equal vote in directing our destiny. Science is a concern of the entire public; it is paid for by the public, so the public must know something about it. There was a time, "a century or more ago, when science was influenced by society only insofar as society created a climate of opinion inside which all but the greatest scientists were confined and had to do all their thinking" (*2*). Today, when so much of science is paid for by the government, the directions which science can take are determined by government officials who, in turn, are responsible to public opinion. If science is to be managed for the public weal, then the public should have some cognizance of what it is about. Furthermore, when scientists disagree—as they do, for example, about the effects of radioactive fallout—the citizenry must be aware of how and why the scientists disagree and must make decisions regarding which set of recommendations to follow. "It is not enough to have some people who are artists and some people who are scientists and some people who are something else," says Ralph W. Tyler (*14*). "Everyone needs some understanding of science, because only in this way can it be used intelligently for the good of society."

The point is that ours is a scientific society, not because every man is a scientist or understands science, but because science is one of the chief creative and determinative forces in our civilization. We need an understanding of science, not to understand science *qua* science but in order to understand our civilization. Science is as much a part of modern culture as is business, government, music, painting, or poetry. Not only is science an integral part of our civilization, it is more integrated in our civilization than in any past civilization. We simply cannot understand our modern civilization without understanding science.

Because the history of science provides a possible means to acquire a necessary understanding of our society, I advocate its inclusion in college curricula. Although one can learn something about science itself through the history of science, its real importance and significance lies in its contribution to our understanding of all our civilization rather than one part of it. Some historians of science, in their enthusiasm for their subject, are beginning to advocate the history of science as a way of teaching science, as a substitute for laboratory instruction or even for subject-matter courses in science. Their enthusiasm is laudable, but I think it is misplaced.

Science in Culture

The history of science is not a way of teaching science, nor can it be a substitute for laboratory instruction. Elementary laboratory courses are devised to give the students an acquaintance with and practice in the techniques of science; reading about such techniques would be an inadequate substitute. Unfortunately, in much of our modern science teaching, the laboratory techniques are mistaken for science itself. Furthermore, the traditional science courses, which place the emphasis on subject matter, are not always successful in teaching the meaning of science. Taking the typical freshmen or sophomore course in physics as his example, Henry Margenau (*8*) points out that "these courses are crammed with a superabundance of uncorrelated facts. . . . Within one year no professor can teach and no student can absorb such an overwhelming avalanche of material together with its conceptual connections. . . . Conceptual illumination is put at the end, where, since teachers are forever rushed because of the fullness of their courses, it is slighted."

Perhaps it is in this conceptual illumination, or at least in showing the historical continuity of scientific problems and solutions, that the history of science may have something to teach as science. But it should not be thought that the *raison d'être* of the history of science is that it teaches scientific "facts." If anything, the history of science teaches that scientific "facts" merely give current answers to questions which will be answered differently tomorrow. There may even be different questions tomorrow. The history of science can demonstrate how those questions and answers have changed over the course of the centuries and, in that way, perhaps contribute to a greater understanding of the purposes and uses of science than can a conventional science course. The history of science can teach the essential and continuing terms of science; it can show how the ideas of science and scientists have constantly changed throughout history. It can illuminate today's science by showing where science has been in the past and how it has arrived at its present state.

It should be made clear that the history of science, except at the highest levels of graduate study, is not concerned solely with the internal history of science. That is part of the history of science, but only part; for the history of science is a human study, a social study—an historical study. Just as science is more than a collection of dehumanized and dull formulas, laws, procedures, and techniques, so is the history of science more than simply a listing of names, dates, and experiments. To restrict it to that would be to rob it of its human appeal and to deprive it of its meaning. Science is the product of the creative human imagination, and George Sarton (*11*) was fond of pointing out that the history of science was the "new humanities"—the humanistic study of science through its history, its cultural context, its humane aspect—transforming the subject from a lifeless enumeration of names, hypotheses, and discoveries into a living inquiry into human culture.

If a student is to understand science, he must realize that it is part of a continuing human adventure; the history of science is no more an antiquarian narrative of names, dates, and scientific discoveries than the study of literature is a listing of authors and titles. Of course, a single scientific fact—that the temperature of the sun's corona is 1,000,000 degrees Kelvin, for example—may seem uninteresting and of little value except to an astrophysicist. But if we look at that fact from the standpoint of the historian, asking ourselves how on earth they discovered the temperature of the sun's corona, then we find ourselves caught up in some fascinating human and historical problems.

Bridge over Mystery

Think for a moment of the questions involved: First of all, there was the problem of devising a telescope before the sun's corona could be discerned, and we must go back to Lippershey and Galileo in the seventeenth century for that. A method of analyzing the sun's light is also necessary, and we can trace this from Newton's theoretical formulations of the nature of light to the highly refined spectroscopic techniques developed by Bunsen, Kirchhoff, and Fraunhofer during the nineteenth century. Once the techniques are available to analyze the sun's light, then we may ask where the heat of the sun comes from. This brings us to relatively modern history, to the smashing of the atom and the investigation of the microcosm in order to unravel the secrets of the macrocosm.

Now the story of how these scientists came to make their discoveries—what they did, and why and how they did it—is part of the great drama of man fighting against the unknown, the continuation of the struggle for light and understanding. Science has human drama and adventure; the history of science can help the student discover the human dimension of science.

Science also has a social parameter. Societal needs may in large measure determine the support given to the scientist and even the nature and field of his scientific researches, although his individual response to the challenges may be independent of social factors. The reciprocal relations between science and society are manifold, which is why science has certain social responsibilities (*3*). Conventional science courses cannot bring out the social interrelations of science; the history of science, when properly taught, cannot fail to do so.

Because the history of science deals with the human and social aspects of science, it has frequently been advanced by its proponents as a "bridge" between the "two cultures." Although some of Sarton's present-day disciples claim that the basic concern of historians of science lies in advancing their chosen subject rather than in acting as bridge-builders (*4*), the fact is that the history of science can serve as a bridge between the "two cultures." The case can be stated even more strongly: Given the present disintegration of the curriculum in modern American higher education, what is now needed is a common core of knowledge which deals integratively with science, social development, and cultural evolution. Just as at an earlier date the classics provided a common background for all educated men, so may the history of science become a bond of union among educated men and women in our contemporary civilization.

While providing some basic understanding of the development of science as part of culture, the history of science can help overcome what may be termed the mythology of science. An aura of infallibility surrounds scientists, and the public mistakenly believes that science has shown a linear progression throughout history. The history of science can do much to dissipate these false notions and to cast off the cloak of mystery surrounding scientific work. For one thing, it can show that during long periods of man's history, science has virtually stagnated, that research "is very much a hit or miss affair" (*12*), and that accident and error have frequently been responsible for scientific progress (*6*). Furthermore, it can indicate that "scientific truth is necessarily tentative, subject to correction" (*8*).

To Lay the Myths

Unfortunately, what little the public currently knows about science makes it cling to the Newtonian worldview, which lent itself to the notion that absolute knowledge regarding the functioning of the physical universe was possible. Also, Newtonian science employed mechanical models which everyone could visualize and whose operations were understandable. With the rise of modern physics, particularly quantum mechanics, the older mechanical models have given way to abstract and nonintuitable concepts; now certain strange propositions, seemingly contradictory to common sense, such as Einstein's theories, have gained universal acceptance among scientists. If the tentative nature of scientific conclusions and the fallibility of science is to be shown, history of science courses should not end in the nineteenth century, but must continue into the beginnings of modern physics and the questionings of Newtonian conceptions.

Another element in the mythology of

science is the notion of western European superiority. Although the Russian successes with Sputnik may have shaken this superiority complex, the history of science can do its part by demonstrating that no single ethnic group, no single nation, has had a monopoly on scientific knowledge or technical accomplishment. Science has drawn stimulation and contributions from different peoples at different times; perhaps the study of the history of science will indicate to us those factors—cultural, social, economic, political—which encourage and hasten the growth of science. If the history of science can teach us that, it will have value not only in broadening the education of non-scientists, but in pointing the way toward future developments in our own socio-cultural atmosphere.

The history-of-science approach along these lines may seem to be a vast "debunking" of science; actually, it gives a realistic picture of the nature of science—its problems, its limitations, and its very real contributions.

So far I have spoken of the value of the history of science to the non-scientists, but its value to the scientist should also be apparent. After all, the scientist is a citizen, and all citizens should have some understanding of the way in which our society came into being. Furthermore, the modern scientist is a specialist, and it is imperative that our specialists "have some understanding of the enterprise in which they are engaged beyond the confines of their own narrow field of competence" (*9*).

The sad truth is that some scientists often do not themselves understand the nature of their own discipline or have any knowledge of its history. This is not an indictment of their competence as scientists, but our better scientists do seem aware of the importance of the history of science. Richard Meier, for example, believes that "the creative scientist almost invariably knows more about the history of science than his run-of-the-mill colleague does; that he is more conscious of the evolution of ideas and knows from history 'what is really novel,' and what is, therefore, worth pursuing as distinct from that which has been done unsuccessfully before and so offers little hope of being useful" (*10*).

The failure of the student of science to understand the historical foundations of his subject is perhaps owing to the limited character of much of our current scientific training. The student is presented only with the results of prior science, not with how these results came into being. True, he learns equations and formulas and how these are derived, but their derivation is shown to him mathematically, not historically. His laboratory sessions are, in many cases, little better than schools of cookery, wherein he follows the recipes laid down in the laboratory manual and, sure enough, comes out with the results predicted theoretically and already worked out many years before. True, he learns some of the techniques of science, but he is interested in getting a grade, and his grade depends not so much upon his understanding as upon his ability to follow instructions and to write a neat set of laboratory reports.

Safe from Hubris

What indeed is "scientific" about many of today's laboratory or classroom procedures? They fail to arouse the student's intellectual curiosity, and he misses the intellectual joy, the sheer fun of scientific investigation. The history of science, on the other hand, regards science as a series of problems, for which we by no means have all the answers, and stimulates the student to look further as a scientist. It also deepens the scientist's understanding of science itself by enabling him to make a more detailed examination of certain key concepts and problems. The student's approach to science would be quite different if he saw it in terms of man's struggle to understand the operations of the physical universe and of observing man's progress in mastering his environment. This is a never ending battle, begun by earliest man and still going on today.

The history of science is also valuable to the scientist because it acquaints him with the human and social dimensions of his work. Through a thorough knowledge of the past, the scientist may become more conscious of the forces that affect his work, more alive to the limitations of his methods, more aware of the tentative nature of his findings. Thomas S. Kuhn claims (7), "History, if viewed as a repository for more than anecdote or chronology, could produce a decisive transformation in the image of science by which we are now possessed." It can serve to free the scientist from the limitations of his own idols of the mind. This would guard against *hubris*, excessive pride, the besetting sin of our own times as in Greek antiquity.

In the final analysis, the case for studying the history of science is to be found in its advancement of our understanding of man. We live at a time when there is much gloom and pessimism regarding the human present and future; yet at the same time there is a widely held view that our society is the "biggest and best ever." The history of science lends credence to both these contradictory views. After all, the advances of science and technology have given us the potentiality for virtually unlimited human destruction; but they have also given us the potentiality for social improvement and human betterment. Study of the history of science does not prove that the progress of mankind is necessarily guaranteed, for we can see times in the past when science failed to advance or, in some cases, even retrogressed.

Nevertheless, the history of science does give us cause for cautious optimism; it demonstrates how man can transcend petty national rivalries and how the human mind can employ its reason for the solution of complex and disturbing problems which have long defied the human intellect and vision. From our study of the history of science, we may gather faith and hope that the other problems which beset us may be conquered by the use of human reason, ingenuity, and imagination. Thus the history of science can teach us faith not in science, but faith in man—his potential, if not his performance.

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Contributors

There is no gainsaying the problem: The proportion of professional scientists in modern culture is and must remain small, but science is so dominant a *motif* in contemporary life that all of us must understand it to some degree in order to act responsibly as citizens. How can we who are nonscientists achieve the essential comprehension to live effectively in our scientific age?

Last month Gerald Holton entered a persuasive plea for more substantive science, taught in specifically integrated ways, as the means for meeting this need. Now, in April, the *Record* offers three responses of a different sort. Two historians of science contend, from sharply different points of view, that not substantive science but its history provides the key to the necessary understanding. **Melvin Kranzberg**, a member of the faculty at Cleveland's Case Institute of Technology, is editor of *Technology and Culture;* his friendly adversary is Yale's **Derek de Solla Price**, author of the recent *Science Since Babylon.* They are joined by **Russell Kirk**, editor of the *University Bookman* and author of *The Conservative Mind* and *Academic Freedom,* who fruitfully challenges the extent to which we are currently concerned with science in the liberal education of citizens.

From natural science to social science is no longer a long step, but it is still one with long implications The subject matter of social science overlaps inevitably with that of the humanities, and **Frederick Wyatt**, Director of the Psychological Clinic at the University of Michigan, deals with that overlap in a way that is long overdue. Given the parallel concerns of social scientists and humanists, what is the cost and what is the nature of the peculiar animosity that often marks their relationship?

Animosity is relevant, too, in two other articles. **Charles Winick** of Columbia University's School of Business presents what is, to our knowledge, the first empirical look at the way the New York teachers' strike was perceived by teachers, parents, and school children. His observations are provocative ones on a conflict of obvious importance. Similarly, **Melvin Rader**, distinguished philosopher at the University of Washington, discusses the controversial topic of teaching about communism in American schools, an issue which underscores a clash between strategic objectives and our national integrity—an unhappy matter that demands the hard work of becoming fully informed and of exercising clear thought.

Information and clear thought are aided and abetted by the contribution of another philosopher, Rochester University's **Clarence Karier**, in his analysis of Freud and Dewey, where he makes helpful use of the distinction between a *revolutionary* and a *rebel.* Surprisingly, that distinction may prove useful in understanding the aspirations of the earth's "new" nations, a matter dealt with in this month's pages by **Andrew Cordier**, Dean of the School of International Relations at Columbia, in an adaptation from his address at the inaugural banquet last November on the occasion of John H. Fischer's induction as President of Teachers College.

Finally, **Vivian Nora Grelick**, a well regarded painter, art critic, and art educator, discusses for us the peculiarly "outside" status of the arts in contemporary civilization, contrasting it with the centrality of their place in earlier stages of culture.

We hope these items help to celebrate our emergence from a brutal winter into a pleasant springtime!

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Association in growth: International assistance

LESS THAN A GENERATION ago, the great continent of Africa was still, to most of humanity, an unknown land. For centuries, the peoples of Africa created a record of their own lives which was practically a closed book to the outside world. In the nineteenth century, the metropolitan countries of Europe carved this various continent into separate colonial domains, and colonial administrations were among the first to be aware of the life and problems of African peoples. Missionaries followed quickly and did much to establish a basis, however incomplete, of the educational life of the region.

The colonial regime could not be permanent. Powerful waves of nationalism disrupted the system, and new nations have emerged with startling swiftness during the last few years. These new countries, breathing the invigorating air of freedom, face colossal tasks in the development of the infrastructure of their national strength and stability in practically all aspects of their existence. There are countless problems crying for solution.

Three important conferences have recently been held under the aegis of UNESCO, attended by the ministers of education from each of three continents—Latin America, Africa, and Asia. In the case of Africa, where needs are greatest, Mr. F. Dieng, National Minister of Education of Senegal, President of the Conference, summarized the gravity of the educational situation in his part of the world:

> Their findings (of the Addis Ababa educational Conference of African States, held shortly before) were indeed gloomy, revealing an unpleasant situation in all its stark reality: out of 25 million school age children, 13 million have never been to school, and less than half these "privileged" children complete their primary schooling. Out of every hundred children only three can look forward to receiving a secondary education, and barely two out of one thousand will go to African universities. The average illiteracy rate is 80 to 85 per cent, twice that of the world as a whole.
>
> We need only refer to the final report of the Addis Ababa Conference in order to gauge the appalling extent of these needs. The money to be found for school buildings, equipment and textbooks, the training of the hundreds of thousands of teachers needed at all educational levels, the reform of curricula to bring them into line with African requirements, in a world however where technology is steadily assuming greater importance and more specifically the founding of universities, the

> development of education for girls and women, the at least partial eradication of illiteracy among hundreds of millions of men and women, and the organization of national educational planning bureaus, all these are subjects on which vital decisions were taken at Addis Ababa. Their bold character and their realism have attracted widespread comment.
>
> Our aim is to increase the enrollment for children of primary school age by at least five per cent a year. Similar efforts for both secondary and higher education are planned as a logical sequel.
>
> The task is tremendous in view of the complex planning needed in all states, and the huge expenditures which the implementation of these decisions will involve.

The Senegalese Minister described the problems and the needs of education in Africa against the background of great historic events, a revolution of the first magnitude, having two prongs of aspiration: one, freedom from the yoke of distant rulers; and two, the movement of rising expectations.

The Unexpected

The move toward independence for the great areas of Africa and South Asia took place at a tempo which no one expected at the time the United Nations Charter was drafted at San Francisco. There was recognition then, written into the Charter, of a need for peaceful change, culminating in self-determination and independence. Parallel to this fundamental right and objective, emphasis was given in the Charter to the economic, social and educational rights of peoples in these extended dependent territories. The three chapters of the Charter, Chapters 11, 12, and 13, could rightly have been called the Magna Carta of the rights of dependent peoples. The great principles set forth and the machinery provided to give voice and meaning to those principles, provided a platform and a channel for those seeking independence and for those supporting their efforts. Already, before the war, a giant momentum had developed for independence in the British possessions of South Asia, a movement spearheaded in particular by Mahatma Gandhi, whose theory and practices of passive resistance, widely supported by the population, could not be fended off by the British. Hence, while the Charter was being written, new nations—India, Pakistan, Burma, and Ceylon—were emerging out of the setting of empire. This story of aspiration and triumph spread like a forest fire across the great and relatively unknown continent of Africa, resulting in the sharp increase in the number of member states in the United Nations—from four in 1946 to 35 in 1962. These figures reflect a story of a rapid, indeed revolutionary, historical development in our immediate past and of the tremendous, almost frightening, challenge for the world community in the years just ahead—frightening only if the world community does not seize the opportunity and transform the serious problems that exist with young communities into some promise of a better future.

In the first phase, the phase leading to independence, the gathering momentum toward independence was reflected in various United Nations organs: the Trusteeship Council, the Committee on Non-Self-Governing Territories, the Fourth Committee, and the Plenary of the General Assembly. In the early years, these were the organs through which the views and the arguments for independence were reflected. In the last four or five years, they were the mechanisms through which, by virtue of debate and the approval of strongly worded resolutions, the independence movement was given added stimulation. Attempts by the Soviet Union to be the champion and the initiator of efforts toward independence were thwarted by the Afro-Asians themselves, who carried the initiative. Petitioners from trust and non-self-governing territories were received in increasing numbers. They were granted a full and sympathetic hearing in the bodies of the UN, and many resolutions reflected their political views. Today many of these petitioners have emerged as the political leaders of their own countries.

If the United Nations stimulated the movement toward independence, it also contributed toward its peaceful character. Some violence did take place, notably in Indo-China and in Algeria, but it is a tribute both to the people seeking independence and to those granting it, as well as to the United Nations, that a movement of such vast proportions took place with a minimum of bloodshed, thus providing at least in that degree a favorable setting for these new communities.

Aspirations Rising

But on the attainment of independence, this great revolution has not by any means spent itself. There exists now the revolution of rising expectations. These peoples are no longer isolated, hemmed in by distance and by a lack of knowledge of the outside world. The extraordinary advances in transportation and communication, the tightly interwoven and interlacing character of modern life, whether in the economic or the cultural fields, have brought a knowledge of the world to their doorsteps and have given them a strong desire to improve their fortunes and those of their children. Thus, there is combined in the new member nations vital needs to be met and high expectations to be realized.

The Senegalese Minister succinctly described the needs in education; these needs are to be found in all walks of life. In the Congo, for example, on the attainment of independence there were only 17 college graduates in a population of 15 million; there were no trained doctors, only a half dozen trained nurses, and only one trained lawyer. In another African country there were only six college graduates when independence was achieved. Happily, in some of the countries, there are leaders of genuine enlightenment and ability, men of stature who are dedicated to programs of stability and growth and peace for their people. Their number is too small, and their task often too large. What they need are more men of their kind, men who can fill posts at all levels of the administration and in other segments of national life.

These new nations are still benefiting from the unifying effect of the glow of independence; but that stimulation will sometime wear off, and when nations get down to the hard, tough problems of their national growth and stability, there is a prospect of intensified internal difficulty unless there is a sufficient corps of trained and devoted administrators and civil servants to preserve the sense of direction and carry the weighty problems of planning and execution. The late Dag Hammarskjold was deeply sensitive to the importance of this vital matter, and the Dag Hammarskjold Foundation, established in his memory, is now devoting its efforts to the training of personnel, in African countries and elsewhere, to hold responsible posts in their governmental structures and their national life. Looking at the problem of national development of some of these countries from any angle—whether it be programs of economic aid, technical assistance, or public administration, programs in health, education, or welfare—there is always the same problem: the great lack of an adequate corps of trained people to carry the load locally and thus to assure the satisfactory utilization of their own resources and of proffered aid. Unless the world community, in active concert with the countries concerned, can produce effective short- and long-term programs aimed at strengthening these new communities at this crucial time, critical problems impairing the internal harmony and civil peace of these new nations may arise with obvious implications for peace on a wider scale.

Association in Growth

It must not be forgotten that these great new areas represent the flank of the cold war. With internal deterioration, they could easily become the direct arena of the cold war. It is therefore a part of our national interest in limiting the scope of the cold war and as a contribution to peace that all wisely conceived efforts should be made to assist them as they may wish to be assisted in the development of healthy, growing, free societies, consonant with their own rights and expectations.

But assistance to be given—I prefer to call it *association in growth*—depends very much for its effectiveness upon the philosophy, attitudes, and techniques of the giver. If aid is given as from the rich to the poor, from the literate to the illiterate, from representatives of stronger cultures to the people of weaker cultures, its benefit will be lost. That approach is not only wrong psychologically; it is wrong factually. Where there is pride in giving, there is humiliation in receiving. Many top government leaders over the years in these new countries have told us of the moral and practical difficulties in receiving. Even when no strings are attached, important moral implications may exist which do not correspond to the requirements of human dignity or to the particular psychological needs of a free and growing society. Yet there are vast needs: Vast populations are underfed; illiteracy abounds; resources need to be developed, and the infra-structure of governments and of the economy needs urgently to be improved. The solution of this dilemma must be found mainly in the intellectual and the moral field.

When Mr. Hammarskjold returned from his extensive African tour several years ago, he said that the greatest need of the African peoples was *moral* assistance, by which he meant an understanding of the framework of their thinking and a lively comprehension of their needs. Our assistance to them will reach its maximum value only when we recognize that they too can give much in reciprocity—not perhaps in material things, but in growing wisdom, in common sense, and in increasing comprehension of the ways in which their own difficult national problems can be tackled successfully. In the United Nations, it is not the representatives of the new countries who make all the mistakes, or those of the old who display all the wisdom. Happily for humanity, there is no national monopoly on either wisdom or error.

The recognition of these facts should keep us from an overzealousness born out of a false sense of our perfection, falsely contrasted with their imperfection. It should save us also from the expectation of the working of miracles of cultural alteration and from wrongly and hastily devised methods aimed at quick social change. Many years ago a missionary, wishing to strike at the heart of the social structure of a large tribe, converted the head of the tribe, a certain King Charles. In the baptismal rite, the missionary exclaimed, "I baptize you Charles King." Now both names are honorable, but the use of the baptismal rite to bring about instantaneous and sweeping social change led to serious and unexpected complications.

Again there is the story of two shoe salesmen, an American and a Britisher, who traveled together to an African town to make their fortune. They explored the town, found that everybody went barefoot, and quickly reported to their home offices. The Britisher cabled, "Arrived safely. Have explored situation. Everybody goes barefoot. No market here. Will return on next ship." The American cabled, "Arrived safely, Have explored situation. Everybody goes barefoot. Market wide open. Send 10,000 pairs of shoes urgently." The market of need in many of the new nations, in many segments of their life, is indeed very great; but in developing an association in growth with these new nations, both extremes should be avoided—a paralyzing pessimism, which eats at the roots of initiative and action, and a superficial optimism, which only creates confusion and disturbance in the minds of those assisted.

Respect for Differences

It is necessary for those who wish to be effective, whether in programs of education or in other forms of association in growth, to be gifted with the capacity for endless patience, for quiet persistence, and for genuine dedication to the task. These require the development of the art of communication with peoples of other cultures and traditions, leading to a definite identification of interest.

Michelet once said that "the further man advances, the deeper he penetrates the genius of his homeland, the greater his contribution to the harmony of the world." We do not renounce our background or minimize the value of our education and experience in developing a sense of identification necessary to the achievement of results with other peoples. Indeed, when great international issues are being dealt with, involving peoples of other traditions and cultures, I have found it necessary—and I have seen it in others—to draw ever more deeply upon one's own spiritual and intellectual resources to achieve the desired results. To be better Americans and better world citizens is not incompatible and does not imply the necessity of transplanting, in package form, American institutions and the American way of life to other peoples. Rather, it implies that in the development of other free and healthy societies, there is much of value in our educational and other institutions and in our way of life that can be adapted through the free will, initiative, and understanding of peoples of the new nations.

These words of caution, of positions to be avoided, of lines to be followed, have fortunately found expression in the day-to-day records of many Americans abroad. I have always been deeply touched in missions abroad to make contact with and observe the work of countless Americans and, happily, peoples of other nationalities who have established a perfect rapport with the people whom they serve; whose sense of identity with the people, their needs and problems, is universally recognized; who constantly assess their results but, even more, the appropriateness and effectiveness of their own methods—who, in short, are devoted and dedicated servants of humanity, laboring effectively in the vineyard of their choice as effective partners in a great association in growth.

In remarks made at the time of the rendition of Beethoven's Ninth Symphony at the United Nations in October, 1960, Dag Hammarskjold expressed what fate decreed should be his testament to mankind:

> No matter how deep the shadows may be, how sharp the conflicts, how tense the mistrust reflected in what is said and done in our world of today . . . we are not per-

mitted to forget that we have too much in common, too great a sharing of interests and too much that we might lose together, for ourselves and for succeeding generations, ever to weaken in our efforts to surmount the difficulties and not to turn the simple human values, which are our common heritage, into the firm foundation on which we may unite our strength and live together in peace.

There is no better statement of the attitudinal base from which our international efforts, if they are to be successful, must proceed.

Issues & Items

Ford and Education. The Ford Foundation continues to be one of the most remarkable influences on our cultural life. In its report for 1962, the Foundation indicates that it made grants for a thumping total of $255.7 *million,* a considerable increase over the preceding year, when its comparable disbursements amounted to $115.7 million or less than half the 1962 figure. Education continued to be a primary beneficiary of this largesse, receiving $125.35 million for domestic enterprises alone.

Expenditures for the education of teachers are themselves a newsworthy item. The Oregon State Department of Education, for example, was given $3.5 million for a combined program aimed at both better preparation for teachers and improved teaching methods, curricular materials, and school organization. Similar efforts were supported by the Foundation in Newton, Massachusetts, and Norwalk, Connecticut. Nine selected colleges and universities obtained an aggregate of $3.83 million to finance experimental programs in teacher training, and the Woodrow Wilson Fellowship Foundation's concern with the recruitment and education of college teachers was underwritten to the tune of $27.5 million.

Other grants to education included $14.5 million to the National Merit Scholarship Corporation, $2 million to the American Council on Education for a major reorganization, $5 million to the Educational Facilities Laboratories, $2 million to the Fund for the Advancement of Education, $8.7 million for the continued work of the Midwest Program on Airborne Television, $4.7 million to the National Educational Television and Radio Center, and just under $3 million to WNDT, the first ETV station in New York City.

One can only be grateful for this kind of bounty from the private sector of our economy. Yet even at the risk of appearing to bite the hand that feeds the educational animal, one wonders about the degree to which this kind of power —and dollars in these amounts inevitably mean power—is subject to public scrutiny and thereby shaped to the public interest in any sense more definite than that provided by the undoubtedly good intentions and considerably more than minimal wisdom of the Foundation's administrators. By what processes are decisions made with respect to the enterprises that the Foundation is asked to support? What kinds of applications are being rejected, and by what criteria? Are any provisions made or contemplated with respect to the smaller project or the work of single individuals, ventures of a kind likely nowadays to be easily forgotten or given short shift by grantors who find it hard to keep books on matters involving less than $100,000? To what extent is the Foundation either directly stimulating certain kinds of programs or indirectly giving them high valence by virtue of its apparent policies?

It is clear beyond doubt that the influence of the private foundation is one of the novel and important developments in contemporary culture. As such, it itself deserves study, especially when it assumes the proportions of Ford. There is an interesting and by no means either insignificant or irrelevant question here: Will Ford or any other major foundation underwrite an intensive study of foundations in modern life?

* * *

Desegregation News. With all the shame and unhappiness bound up with our long overdue efforts to desegregate our public schools, some cheering developments have occurred that probably deserve a warmer response than they have evoked. Despite his troubles at the University of Mississippi, James Meredith returned to the Oxford campus for his spring term. Tulane University in Louisiana and Clemson in South Carolina opened their doors to Negroes with no serious difficulties. In Pennsylvania, an "open schools" policy has permitted some six per cent of school children to attend schools outside their home neighborhood. Of the approximately 15,000 youngsters taking advantage of this arrangement, Negroes account for almost two-thirds. No upsetting incident of any magnitude has been reported.

While we are far from out of the woods yet on this fundamental human issue, it seems reasonably clear that significant progress is being made. One hopes that it will be more fully recognized in the press, which still is dominated in large part by the idea that conflict and bad news are somehow better news than harmony and good news!

* * *

Look to the East. Slowly but surely, America is redressing the inadequacies in its educational opportunities to increase familiarity with the languages and the cultures of Asia. At Thayer Academy in Braintree, Massachusetts, courses in Japanese history and the Japanese language will be made available this coming summer to high school juniors and seniors. This development represents an extension of the similar program in Chinese begun a year ago. Financed by the Carnegie Corporation, the enterprise will permit 20 selected students to invest nine weeks in intensive summer study, followed by a year's work with visiting teachers at the participating schools in the Greater Boston area.

This move at Thayer brings to seven the number of secondary schools in the United States teaching Japanese. Two of the others are in California; two are in Utah, and one each is located in Pennsylvania and New Jersey.

Along the same lines as the Braintree development, a program in Oriental studies at Columbia University, also financed by the Carnegie Corporation, will open next year to teachers from liberal arts colleges who wish to introduce Asian civilization into their own curricula. An extension of an enterprise begun in 1957, this addition will provide grants for teachers to spend an academic year at the University, observing and teaching in the general education courses in Asian cultures.

* * *

Monthly Miscellany. A study guide emphasizing the role of Negroes in American history has been prepared for use next fall in the schools of the District of Columbia, primarily but not exclusively in the 11th grade . . . Finally available in one place is an account of *Merit Salary Programs* (available for 30 cents from the Government Printing Office, Washington 25, D. C.). The booklet describes systems used in six school districts, sticking essentially to the facts and presenting very little in the way of judgment . . .

Despite the addition of 71,000 new classrooms in each of the last five years, the public school classroom shortage at the opening of school last fall was still 121,000, only 6,100 less than the previous year. . . . This coming summer, 21,000 high school teachers are expected to attend 415 summer institutes in science and mathematics financed by the National Science Foundation to the tune of $24.2 million. . . . Some 40 college and universities across the United States are now operating around the calendar year, encouraging students to speed up their progress toward AB degrees without requiring that they do so. The arrangement is reported in a useful pamphlet by Sidney G. Tickton, *The Year-Round Campus Catches On,* which may be ordered from the Fund for the Advancement of Education, 477 Madison Avenue, New York City 22. . . .

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Psychology and the humanities: A study in misunderstandings

IN THE CURRENT RELATIONSHIP of psychology to the humanities there are few areas of contact. The aim of my essay derives from this assessment. At present, only a handful of people in the humanities or in psychology know enough of the other discipline to include both in their scope. Members of this small group are quite naturally also those who believe that both disciplines would profit from a closer relationship. The information the two disciplines have about each other at large (inasmuch as it is not part of a folklore of prejudice) frequently depends on Names in the News: on what Jones says about Freud or Toynbee about history. Considering the inclination toward collective intellectual enterprise, which is a significant aspect of the life of reason in our time, there have been few ventures of interdisciplinary collaboration between psychology and the humanities. Nor would it be easy to initiate them in the wasteland of indifference and defensive irritability which has grown up between the two camps. The public relationship of the two disciplines involves all the captiousness with which groups protect themselves and little of the curiosity and productive ambiguity that prompt individuals to seize upon new ideas. I am talking, of course, of collective sentiments, not of individual sensibilities. In a mass society, it is the attitudes of organized groups, not the private ones of individuals, that determine the exchange of ideas with others. So with professional groups and disciplines. Some channels of communication are open and established, as between literary criticism and history or between psychology and the life sciences; but those between psychology and the humanities are not. The scope of any interdisciplinary relationship is defined by the opportunity for meeting each other in print and in person. Interaction depends on understanding the other discipline's language and basic aims; and for quite some time, neither psychologists nor humanists have known what the other is talking about.

The No-Relationship

It would not be easy to chart the misapprehensions the two disciplines have of each other or to trace them to their historical and ideological origins. The No-Relationship (to borrow an apt term from E. E. Cummings) of psychology and the humanities presents itself as an aggregate of well tended misunderstandings and hidden perplexities. Yet this quandary, if appropriately scrutinized, may hold some insight into the collective mythology and the pious stereotypes of both fields. For the typical protestations of No-Relationship unwittingly contain a catalogue of the projections of one group upon the other. The fact of the matter is that psychology and the humanities have more in common than either is willing to admit. They are concerned with the same subject and derive from the same intellectual history. In spite of the manifest difference in their modern appearance, literature and psychology present responses to the same basic motive, the insistent quest for the *what?* and *how?* of human experience. Of course, the two subjects are different in as many respects as they are alike. Still, psychology and the humanities are so obviously concerned with the same vast segment of experience that their endeavors are bound to overlap.

In order to understand what keeps them apart, it may be useful to examine certain characteristics of both disciplines. I shall first concern myself with the extent of the differences between the two fields and then discuss some idiosyncrasies of modern psychology which appear to isolate it from the humanities; for the sake of contrast, I shall also review some of the metaphysical importunities of one contentious humanist. Throughout, I shall speak of certain problems psychology has created for itself by losing contact with literature, philosophy, and history.

The foremost distinction between the humanities and psychology involves the notoriously ambiguous polarity of art and science. In English usage, the latter term refers most commonly to the natural sciences. Another, broader, meaning of *science*—the systematic investigation of the principles of *any* subject—is less common than the former. With the spectacular advances of the natural sciences, and especially of physics, the term *scientific method* has thus increasingly come to denote methods designed according to the prescriptions of the natural sciences. Psychologists have been particularly impressed by the promise of physicalist method. During the last 50 years, psychology, in attempting to make that method its own, has restricted the grasp of its subject over and over again in order to adapt it to the standards of the physical sciences. As a result, psychologists tend to view the humanities as *merely descriptive* or *historical* or *idiographic*, thereby relegating them to a lower rank in the hierarchy of knowledge. The humanities are not considered to be sciences because they are not law-declaring or *nomothetic*. Inevitably this suggests that some sciences are better and more effective than others, according to the methods they use. In other words, *method* has become the touchstone of science, so that the rank of a discipline can be established by its approximation to psysicalist technique.[1] Finally, this view is extended into the dichotomy of *science* and *art*. To be sure, what is thus called *art* is only vaguely related to the real arts in that it refers to the integration of a variety of impalpable, fleeting cues, as in the "healing arts" or the "art of teaching." In spite of certain undeniable achievements which hard-headed scientists are at a loss to explain, these "arts" come off a poor second when they are compared with more truly scientific efforts, as in the prediction of events from given premises according to firmly established general principles. Psychology has therefore been projected as a science entirely based on quantitative evidence. It is another matter how much this ideal has so far been approximated and at what cost, when we consider how much the physicalist approach in psychology has succeeded in apprehending the human condition (*22*).

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[1] For a recent demonstration of the importance method has in determining what kind of research will be undertaken, see Levy (7). For a penetrating analysis of the relationship of the method of the natural sciences to that of the social sciences, see Kaufmann (4), whose book should be much more widely known.

Humanistic Content

The subject matter of the humanities is man's culture—his languages and concepts, his symbols and forms, and the history of his actions and ideas. Apart from their historical unity, there is little point in speaking about the humanities collectively. None of the disciplines subsumed under the sciences *or* the humanities was created in order to demonstrate a point of view. They grew from specific cultural circumstances, and their history reflects social needs as well as social accidents. The zest for systematizing arts, letters, and sciences beyond the most obvious differences leads unfailingly to highly abstract speculations and peevish argument. For the rest of this discussion, the term *humanities* will stand for literary criticism, history, and philosophy, and will be employed mainly to avoid the tedious repetition of these polysyllabic words. It is obvious that the humanities more often describe ideas or events among people than they formulate universal principles governing their subjects. Thus Rickert's distinction of *idiographic* and *nomothetic* sciences has found a new vogue in psychology; but at the same time, the meaning he originally intended for that dichotomy seems to have been lost sight of (*13*, *14*, *8*). According to Rickert, the *culture sciences* (a term he prefers to *Geisteswissenschaften*) are not merely descriptive, but are characteristically concerned with context and meaning (significance). The motives for science (*Erkenntnisdrang*—the drive to know) point as much toward the individual and the unique as toward the universal and generic. In its own endeavor, then, history has as much scientific validity as the natural sciences. Rickert saw clearly, too, that psychology, although seeking general laws of human behavior, must also be concerned with the unique identity of the individual if it does not want to deny its own character.

In fact, no discipline has succeeded in separating description and the search for general laws so completely as to justify a clear dichotomy between descriptive and law-proposing sciences. Rather, these two approaches represent different stages of any subject. One discipline differs from the next in the stress that it puts on one of these aims rather than the other, which, in turn, will change with time and with the transformation of ideologies. Rickert and others (*1*) emphasized that the humanities are concerned not only with merely linking events in orderly sequences, as they seem to be doing in historical studies, but with uncovering the *meaning* of these events beyond what they might be declared to "be." This has led to calling the humanities "symbolic," though the term then becomes so inclusive that it loses its point. Still, meaning and symbol have in common that each refers beyond its immediate object and thereby connects with other images and objects. No historical event is of such a kind that it could be unequivocally expressed in one term or exhausted by one definition, even though it is usually abbreviated into a generalized concept and frequently becomes a stereotype (*e.g.*, "war" or "migration"). By itself and in its own right, it is a different event for different observers; and for different people, it will attain a widely divergent significance. Any literary work has many meanings on several levels and always points beyond what it seems to represent concretely.

Thus, the humanities deal with larger contexts or cross-links of reference than psychology, at least in its physicalist conception, does. The psychologist, being the more analytical and reductionist of the two, frequently tests small aspects of that universal subject; whereas the humanist, engrossed in his more comprehensive aims, will cast it into his mould without taking time to examine all that he has beforehand taken for granted. With the record of human experience as their common matrix, the two disciplines are bound to overlap more often than their proponents are prepared to acknowledge. They would, in fact, complement each other well if their protagonists were in a mood to think of them in that light. Meaning and globality are essential to man's experience and behavior,[2] as any serious psychology of personality will have to show. The nomothetic appearance of much psychological research either follows from its preoccupation with processes which are physiological and biological rather than psychological, or it represents the planful isolation of one facet of experience at the expense of all others. This narrowing of scope poses a perennial problem for all social sciences; but a more specific and acute problem is created by the inclination of modern psychology to lose sight of the factitious quality of that isolation and to confuse it with some ultimate kind of reality—as though the tangled web of experience would at once become straight and simple if psychologists only wished it strongly enough.

If the place of the humanities in our culture is properly assessed, it becomes clear that it, too, cannot be defined in terms of subject matter. Humanists do more than review books, tally history, and analyze style. Apparently they do something that is not properly comprehended by the terminology of scientific inquiry. Literary criticism and literary history in particular, beside and beyond their researches, act as mediators of a cultural tradition. The study of their subject largely coincides with its cultivation and mediation. Exegesis serves both: the text under study and the continuity of a cultural tradition. Literary criticism in this sense holds out a natural unity of investigation, interpretation, and cultivation.[3] To engage in uncovering yet another meaning of the Homeric poems 3,000 years after they were set down in their present form involves the assumption that these works provide an almost inexhaustible repository of latent meanings. It affects us not just as a work of fiction or a record of a civilization, but as a singular spiritual force. It is this force that is to be demonstrated and continued by ever renewed study and interpretation.

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[2] The term "behavior," which is customarily used to describe the subject matter of psychology in this country, has too many hidden implications to serve its purpose well. Originally, behavior referred to the organism in motion. The ideological content of this term is to proclaim a psychology "from the outside" and to exclude and deny the experiential quality of all self-awareness, or simply the fact that subjective experience is inevitably the primary datum of psychology. Undeniably, behavior has since then become a more neutral and conciliatory term so that it can now be extended to reasoning or dreaming, events that can be assessed only very incompletely "from the outside." I have argued on another occasion (*23*) that in employing a term like "behavior" one is bound to acquire also the latent commitments that still secretly inform it. The problem is what word to use instead of behavior? *Experience*, no real equivalent of the pertinent German *Erlebnis*, will do to describe the subjective quality of psychological data; but when used too broadly, it also becomes too vague. Perhaps a more extended and more systematic usage of this term in psychology would give it more muscle. *Conduct* as a term to replace *behavior* has some advantages, but it is also weighted too heavily with innuendos of good and bad. For the purpose of this paper, *behavior* is used emphatically in its most neutral sense, referring to the "mental events" that people observe in others and in themselves.

[3] Culture derives via Latin: *cultus*—worship, from the verb *colere*—to care for, tend, cultivate. For a profound definition of what the humanities are really about, we should turn to I. A. Richards (*11*): "The humanities . . . are the hardest to teach because wisdom, which they exist to cultivate, cannot be cut and dried. Much in other subjects can." Also: "Literature —a deep enough and *leisurely* enough familiarity with what the best minds have thought and felt about people . . ."

The peculiar position of the humanist, who is (at least in principle) the guardian of a cultural tradition while he is its student, lends dignity and perennial vitality to the humanities. This productive ambiguity of role, however, is probably also a deeper cause of the disdain of many psychologists. Characteristically, it is directed against some forms of humanist endeavor (literary exegesis and criticism, literary history—especially of remote and obscure writings—and literary biography) more than against others. The multiple reasons for the prevalent attitudes of one discipline toward the other will have to be examined in a future sociology of knowledge.[4] For the moment, we shall have to be satisfied with some tentative observations. One could argue that the attitude of psychologists toward the humanities follows from the inclinations which characterize psychologists as people. It could also follow, however, from the prevalent orientation of psychology itself, pointedly at odds with that of the humanities. Let us pursue the second point a little further.

Viewed as an intellectual enterprise, psychology neither represents an integrated system nor can it boast a unified ideology. Psychology simply does not have a unified point of view. Its discipline may be described as a number of psychologists addressing themselves to a vast variety of tasks. Their various approaches are determined by the peculiar nature of each task. Contemporary psychology thus presents itself as a congeries of relatively independent viewpoints, of clusters of theory more or less elaborated, of widely differentiated attitudes toward observing, proving, and knowing. In effect, the several major approaches to the subject matter of psychology—experience and behavior—overlap even though their semantic appearance may proclaim irreconcilable differences.

Two Cultures of Psychology

With such a loose frame of reference, psychology should find it easy to relate to other disciplines that pursue similar ends. Psychology is indeed pluralistic. In order, therefore, to understand its present uneasy relationship to the humanities, it is necessary to look beyond the variety of psychological theories to a much more elementary distinction that pervades contemporary psychology. Psychologists may adhere to different theories or pursue a variety of topics from animal learning to abnormal behavior; or they may even make a method into a theory, as is the case with factor analysis. Yet all these divergent interests, according to present conviction, will have to submit to similar presuppositions of evidence. The universal task of psychology is to explain (or to understand) how experience and conduct come about. The psychologist on one side of the principal divide to which I referred before may, above all, wish to come Close to Real Life, whereas his counterpart on the other side will be more concerned with precise concepts and with systemic consistency. The first will put his trust in the discriminating observation of others and of himself, and will be wary of the strictures which experiment and quantification impose upon these objectives. The second will be more

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[4] For incisive observations of the images the humanities and the natural and the social sciences have of each other, see Riesman (*15*).

concerned with rigorous evidence and, in consequence, with manageability. This will make him look for smaller and more isolated segments of experience to address as *behavior*[5] in the hope of thereby making them more pat and impersonal. The psychologist who wishes to grasp the human condition in its living actuality must be prepared for this ever-changing complexity. His approach is *global*, and his foremost concern is with *understanding human conduct;* but his sterner colleague makes *scientific rigor* his primary goal and occupies himself with the appurtenances of *science* in psychology.

I suggested before that psychologists in general, but especially the more rigorous ones, tend to consider a kind of physicalism the epitome of science (*12*). In token thereof, psychology is deeply committed to measurement and experiment. Both have, in turn, profoundly influenced psychology's conception of itself. Psychological events must be regarded as linear so that they can be isolated and tested experimentally; and the relationship among them must be one of simple and unidimensional cause and effect. The atomism inherent in this approach, far from deterring them, seems to lend laboratory (or "tough-minded") psychologists a sense of affinity with the natural sciences. Thus, there has been an inclination in the history of psychology to approach experience through the senses and through the physical events which seem to underlie their functioning. Both method and physicalistic inclination have given psychology the quasi-positivist (and sometimes naively materialist) cast that characterizes it at present. While many psychologists think of their subject as a biological science for which the vagaries of consciousness are an embarrassment, others may perfectly well conceive of it either in watered-down behaviorist or in outright experiential and introspective terms. The predominance of method, however, remains the same. There are exceptions, of which psychoanalysis (*5*) is the most important one; otherwise, psychology, biological *or* social, gives obeisance to the same ideal (*2*).

People select a discipline because of some intellectual affinity. Once they are committed to it, the discipline imperceptibly moulds its disciples. It should not surprise us, then, that many psychologists find the descriptive or narrative or comprehensive style of the humanities alien and almost reprehensible. Above all, they are wanting in the elementary safeguards of scientific objectivity. Criticizing these defects, the psychologist no doubt confuses the means of objectivity with the end, and the achievement of sound conclusions with what may, at best, help in attaining them. The peculiar problem of established psychology is that it has made the experimental method absolute, and so psychologists have come to regard its trimmings as indispensable. From such a vantage point, it becomes difficult to distinguish between scientific formalism and the degree of objectivity it really yields.[6]

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[5] The real philosophical significance of *behavior* lies, it would seem, in pointing to the elementary sameness in the conduct of all living things. As such, the concept has undeniable significance. It falls short when applied to a man who lives with other men in a culture; conduct is in practically all respects moulded by this elementary condition and can be understood only in relationship to and in interaction with it. If a classification is needed, psychology seems to me to be more nearly a *social* than a *behavioral* science. History, for example, has a lot to do with hunger, but nobody has thought to call it a branch of biology for that reason.

[6] "For each branch of the science of human and social conditions, rising from a linkage of psychological and comparative-historical insights, develops according to its own principle, which cannot be established by any theory beforehand. Its results will be the more useful, the more accurately psychological understanding renders the sequence of complex psychic events as they actually occur" (*1*).

There is, finally, the confusion between the mannerism of scientific writing (an easy target for humanist sarcasm) and the intellectual imperative from which in the last analysis all objectivity springs. Perhaps psychologists recognize in literature and history the early origins of their own science. They may well recognize certain undeniable shortcomings in the propositions of literature and history; but they may also sense in them a greater facility for grasping the essence of human experience. As suggested, both the psychologist and the humanist may, without being quite aware of it, each see himself mirrored in the endeavor of the other. Each misunderstands what the other aims for and projects his own apprehensions onto it; but at the same time, each perceives also something of the real problems of the other discipline.

Humanist Strategies

No doubt, humanists too have their misapprehensions of the social sciences. I do not want to intimate that psychologists would appreciate the humanities more if humanists could only disabuse themselves of some of the notions they hold about psychology. Humanists as historians, as philosophers, and especially as literary critics are in the peculiar position of having to pass judgment on subjects which belong to the social sciences. The historian, unless specialized, will not often speak of scientific and technological developments. He *may* have to consider economics, but he *will* have to judge individual character and the interaction of groups at every turn. By the nature of his task, he will find himself continually occupied with central problems of psychology and the other social sciences. Because literature *must* be concerned with human conduct, the literary critic cannot stay only within its formal and aesthetic context. When he passes judgment on the presentation of a character or the correctness of his social setting, he is bound to speak of the subject matter of psychology and other social sciences, and he will usually do so with considerable self-assurance. The critic is the only intellectual specialist who still has the freedom to comment on man at large when he comments within his specialty. He has retained something of the universality which, until the end of the eighteenth century, was the prerogative of the truly educated. The vitality of literary criticism may well rest in the conviction that literature contains most of what is known about man and worth knowing of him. The refusal to be cowed by specialization, both noble and naive, follows hence.

However, the critic treats of ideas and is therefore subject to the stringency of rational discipline. Does he have the data and the specialized knowledge that his argument demands? Take Ortega y Gasset (*10*), writing about love in the great tradition of the literary essayist. He may still have more to say about the topic than any professional psychologist. Yet it is just possible that he might have done better still *if* he had also read Freud, Reik, and Beach. The humanist is prone to reject an argument that interferes with the comforts of literary intuition and with his cherished beliefs. He will then brush it aside as an absurd presumption or, if it really impresses him, as a dangerous fallacy likely to undermine civilization if it is allowed to go unchallenged.

A good example is at hand. I should like to use J. W. Krutch's *The Measure of Man* (*6*) as a paradigm. This book is an outstanding case of both a typical misapprehension of the social sciences and a counter-position so intent on protecting certain traditional sentiments that it becomes querulous, irrelevant, and worse. Ironically, the sentiments for which

Krutch takes arms are in no danger from the social scientists, most of whom would support them with no more than minor reservations. Dr. Krutch nevertheless finds much insupportable zest in running down points that no modern scientist, social or otherwise, is likely to raise. His book was widely hailed as a refutation of the mechanistic fallacies of contemporary social science and as an exposé of their dangers to reason and freedom. Among those of like sentiment, it still holds a place as a powerful argument *contra infideles*. The book purports to show how the social sciences dogmatically insist that man is "nothing but" a machine, without freedom of will and therefore devoid of spiritual autonomy. On the basis of these false doctrines, human engineers are likely to take over the dictatorial control of all our minds unless the public will turn its back resolutely on the image of man that the social scientists want to foist upon a gullible world.[7] Having set up this straw man, Dr. Krutch proceeds to knock it down for the remainder of his text by disproving the mechanistic premises of the social sciences.

Walden Much Revisited

His case is directed in large measure against a discursive Utopian fantasy by B. F. Skinner (*18*). *Walden II* discusses in the style of classical Utopian writings the prospect of a society built on psychological theory. In it the children of a Utopian community are being conditioned to control themselves, tolerate frustration, strive for sensible goals, and so learn to live together peaceably and effectively. Yet in spite of the fact that this book is clearly an extension of Skinner's ideas about the organization of behavior, it is not especially representative of modern psychology. It is equally clear that *Walden II* does not assert any truths; it would be hard to imagine how its author, a rigorous empiricist, could have mustered the evidence. Dr. Skinner's Utopia is plausible, not true; possible, not real. It invites reflection but does not command acceptance. Its plausibility rests on Dr. Skinner's theories, which most psychologists consider with respect without necessarily agreeing with them. Furthermore, the realization of any Utopia obviously depends on a great deal more than theory. As a proposal *Walden II* is entitled to ask for critical consideration, but it can scarcely be taken as a manifesto of modern psychology. In so taking it, Krutch makes the social sciences accountable for a number of views which they do not hold. He also gives a twist to a highly arbitrary sample of pronouncements which were plainly not intended to be so interpreted. Some of Dr. Krutch's points may well rise from the misunderstandings to which the outsider is prone when he undertakes to judge a subject with which he is not sufficiently familiar. At times, however, his argument supports a conviction which seems to have been ready and complete long before he found any proofs for it.

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[7] "We have, it is said, found out at last both why so-called 'human nature' is what it is and how it may be made into something else. We have now only to decide what people ought to be like and how we want them to behave. After that it is only a problem in engineering" (*6*, p. 44). Also: "Thus—and again in the name of humanity— it assumes that to urge him to be a man and to choose good rather than evil would be both unscientific and inhumane" (*6*, p. 47). And again: "From the situation in which they have placed us, there seems no possible escape so long as we accept the premises which most thoughtful as well as most thoughtless men seem today inclined to accept. If man is only an animal and an animal is only some kind of machine, then both must be controlled by laws. The power of choice which we seem sometimes to exercise and the decisions which we seem sometimes to make must be illusory because the laws of cause and effect are inexorable" (*6*, p. 92).

Dr. Krutch's polemic is directed chiefly against the insistence of the social sciences, first, that consciousness is an epiphenomenon, and, second, that all events, mental and physical alike, are strictly determined. The latter point, he assures us, spells out a complete disavowal of values and ideas and responsibilities. Many psychologists are indeed concerned with what might be called the physical basis of consciousness. Consciousness has certainly never been observed without it; it therefore seems legitimate to investigate that basis in order to find out what the pre-psychological conditions of consciousness are. Psychologists who find it more promising or, at any rate, more congenial to themselves to explore first this physical substratum do not necessarily believe that what comes first in a program of research must also rank first in ultimate significance. If they propose to study the physiological events connected with consciousness, they do not thereby postulate that the latter is an epiphenomenon. The idea for which Krutch holds psychologists responsible goes back to one of the more spurious pronouncements of nineteenth century materialism. In earlier days, it had an undeniable effect on psychology; but as Krutch states it here, it does not mean much any more.

Determinism poses a different problem. There is no need here to go into the complex meaning of that concept or to remonstrate with Krutch that the freedom of choice, properly understood, is not undone thereby (*21*). The remarkable thing in Krutch's argument (which is also a rather typical one for other embattled humanists) is the complacency with which it presumes a double standard. The causal principle is allowed free range in nature, but before man's consciousness it must halt like the sun at the Valley of Aijalon.[8] Dr. Krutch's argument should have the caption, "Man's Special Deal in Creation." Perhaps I can illustrate its intrinsically human but not especially logical quality by recounting an old anecdote. Two Chassidic Jews, each a follower of a wonder-working rabbi, argued whose master was the greater. When the first had finished reciting instances of his rabbi's miraculous powers, the other scoffed, "That's nothing! My rabbi once went on a journey. He started out Friday morning; at sundown (marking the imminence of the Sabbath and thereby prohibiting travel) he was still on the highway nowhere near his destination. What should he do? Pious man that he is, he knelt down on the spot to pray that God should grant him help in his predicament. And right away God let a miracle happen: There was Sabbath to the right of the rabbi, and Sabbath to his left; Sabbath in front and Sabbath behind him; but where *he* walked, there was no Sabbath!"

Freedom and Order

Those who have observed the multiple strands of motivation under the microscope of psychoanalytic psychotherapy may be inclined to think that we tend to over-rate the range of free choice. We are unconscious of many motives which affect our actions. Yet elementary self-love and self-respect make us believe nonetheless that our will is supreme. We may well need this belief for the unscientific business of living. The intensity of the wish and its pragmatic usefulness do not permit us, however, to think that what we desire must therefore also *be*.[9]

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[8] *Joshua* 10:12–13.

[9] For a comparison, see another humanist's views on freedom and determinism: "To say that man is rational and free is, I think, a statement very close to being false. We actually do possess reason and freedom; but both powers form only a tenuous film which envelopes our being, the interior of which is neither rational nor free" (*10*, p. 91). For a barbed but much more pertinent criticism of the social sciences, see Hyman (*3*).

In philosophic analysis the subjective experience of being able to choose between alternatives does not seem to cancel out the assumption that the elements of choice were caused by other preceding events which, in turn, were linked to still other causes before them. Determinism is simply a necessary assumption for a world orderly enough to sustain any scientific inquiry. It implies no more than that there is a regular relationship between events. Without it, no effort at intellectual comprehension would make any conceivable sense.

Krutch's argument is based on the persistent confusion of heuristic hypothesis and metaphysical faith, and I am afraid he plunged into the age-old philosophical fallacies involved in it with no more sophistication than his *bête noire*, the extremist of psychological determinism. Man's autonomy must be saved at all costs, Krutch seems to feel. The trouble is that he means several things by consciousness without being aware that it transforms itself under his hands. First, consciousness is set against a materialist explanation of conduct. At other times, it signifies an epistemic awareness, an *Erkenntnisbewusstsein;* on still other occasions it is a moral agent. In the heat of pursuing so many causes all at once, Krutch comes rather close to demonstrating that antideterminists in their idealistic zeal may not stop until they become enemies of reason. For though he does not say it, he very nearly implies that investigation must stop before this hallowed ground! It is more important to preserve the faith than to gain the truth (p. 137)! The church took care to point out that it disapproved of Galileo's ideas about the movement of the earth primarily because they were wrong—though it also saw to it that he did not pursue them any further. Krutch is more forceful in conveying that he is fundamentally opposed to what the social sciences stand for than in proving them wrong. This is not surprising. Since they are, by and large, empirical sciences, he would have to disprove their errors on empirical grounds.

But the alarming quality of this book does not lie only in its misunderstandings. The appeal to Heisenberg's principle of indeterminism (p. 191) is still much in vogue with those seeking a loophole for man's indefatigable narcissism. One would think that this argument ought not to be approached by anybody not possessed of a considerable knowledge of physics. Certainly the reactions of some scientists to this espousal of physics for metaphysical ends is not encouraging (*16*, *17*). However this may be, and in spite of all misunderstandings, a critical service could still have been rendered by Dr. Krutch. Unfortunately, he did not see through the duplicity of the term *mechanistic*, which may suggest no more than a working hypothesis for the arrangement of data, or may be elevated into a dogmatic ontology implying How Things Really Are. This tendency is undoubtedly one of the dogmatic liabilities of modern psychology and therefore needs criticism. Dr. Krutch, *per exclusionem tertii*, embraces the opposite dogma, that of spontaneous emergence, asserting that man's nobler efforts somehow manage to come about outside the chain of cause and effect. "And faith calls miracle its dearest child," as Faust observes. There is inevitably a magical innuendo to such a belief. If it were to be realized, the world compatible with it would be capricious and utterly disjunctive; there would be little place in it for reason.

Fierce but Tremulous

Dr. Krutch is at times so deeply antagonistic to the social sciences that it doesn't seem to matter any longer to him whether they are right or wrong—if they should be right, so much the worse (p. 53)![18] The fervor that pervades this book must cause discomfort to the reader who is not a partisan of its message. It is hard to understand why even the most profound disagreement with what must still be acknowledged as a search for truth, even though misguided, should let itself go into so many pseudo-issues and trumped-up charges. Dr. Krutch runs down induction (p. 98), charges that Pavlovian conditioning and rat experiments were used to prove that free will is dead (p. 103), and proposes several times over that juvenile delinquency may, after all, be due to too much social science (pp. 110, 193). He equates reasoning with scheming and then blames psychological tests (though he does not say which ones) for not doing what they never set out to do—namely, to show "whether the most superior also have the emotions which make men attractive either to themselves or to others" (p. 168). He "proves" elaborately that calculating machines are not like human beings, equates "thinking with detachment" with "thinking like a machine" or with being detached from "the state of being human" (p. 171), and finally announces in a tone of great discovery that "the universe of values, moral and esthetic, is almost as vividly present as the world of sensation" (p. 203).

An argument that can become so zealous must have a second line of hidden concerns behind the overt, belligerent ones. This is not stated explicitly, but it is clearly implied in the text. Extrapolated, it affords some insight into why the social sciences have such an ominous cast for the humanist observer.

Dr. Krutch's treatise is typical of the attitude of many humanists in that it betrays an exaggerated idea of the near-magical power and presumed public appeal of the social sciences. Many humanists seem to think that the false doctrines of these disciplines have an enormous hold on the public. It is hard to believe that they are so wrong when they can be so persuasive, but no doubt, if history has a lesson, it tells how forceful false beliefs can be. Dr. Krutch's book also shows, however, that much of humanist disdain for the social sciences arises from concern not with their errors and fallacies but with the disturbing impact of their propositions. The fierceness of this criticism may indicate that the critic is not entirely sure of his own position. Those new-fangled insights might in the end be right; but just for that reason, he must spurn them even more. A similar attitude seems to underlie the exaggerated notion humanists have of the influence of the social sciences on the public. It appears that they know no more of, say, *culture lag* than they do of the second law of thermodynamics, with which

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[18] "Thus without the establishment of any totalitarian state or even the setting up of any Walden II, merely by the rejection of all value judgments except those which a particular type of mind declares to be self-evident, we begin to evolve a mental climate with definitely recognizable characteristics. First it is 'self-evident' that men ought to be healthy; then self-evident that 'healthy' means 'adjusted'; and then, finally, self-evident that 'adjusted' means extraverted. 'Doing' is therefore important, and 'thinking' can mean only 'plans for doing' if it is to mean anything at all; and to question any of the accepted values is to demonstrate 'maladjustment' or 'immaturity'" (*6*, pp. 90-91). And: "If the social and psychological sciences, which increasingly assert either that they are demonstrating the externally determined character of all acts, opinions, and tastes or at the least that we should assume for practical purposes that they are determined, are making claims supported by the facts, then the truth which they have discovered is, literally, a deadly truth. It is something which man cannot afford to know because he can neither know nor believe it without ceasing to be Man and making way for that something, either better or worse, which the more apocalyptically inclined occasionally predict" (*6*, p. 53).

C. P. Snow used to test them.[11] "Would it were so," the social scientist might well sigh to himself when he compares the powers attributed to him with those he really has and reflects how far the world is from implementing what the social sciences have to offer. In short, much of the criticism which humanists level against the social sciences arises from a highly intransigent traditionalism which disdains a more realistic view of the human condition insofar as it might force a revision of long held, much cherished beliefs. The fulcrum of humanist apprehension in this respect is the demotion of man from the center of creation, for which social scientists are perpetually reprehended. It is doubtful whether man ever held a higher place than he now does; if he did in theory and rhetoric, certainly it was not so in practice. Literary sensibility does not always distinguish the noble image of man from his real and frequently ignoble behavior. Social scientists can do no more than try to understand the human spectacle in its peculiarity. They would have little effect in demeaning man even if they were intent on doing so—compared, for instance, with the frightening efficacy that their unscientific brethren can in this respect claim for themselves. It is also hard to understand why the defenders of moral and aesthetic values should prefer a fantasy of human nature to a more realistic grasp of it, even though the psychologist can suggest why the former is so often more comforting.

The Factual Core

Social scientists tend to blame the humanities for being more concerned with opinions and values than with facts. This assessment is directed toward a vast diversity of intellectual endeavors; it is therefore parochial and betrays a deplorable ignorance. It may also, however, mostly point to an inherent liability of the humanities which follows from their basic concern with *meaning*. What enables the humanist to perceive experience with more subtlety and depth also makes him liable to confounding his idiosyncrasies with his perceptions. When the two disciplines misunderstand each other, the failing of the social scientist is usually indifference and cultural indolence; that of the humanist is a sweeping kind of dilettantism which gives him freedom to judge other people's ideas without sufficient knowledge of their premises. What he does not understand cannot make real sense—or he can at least denounce it as mechanical, soulless, and as a sign and portent of barbarism.

In concluding, we should reflect for a moment on the cost of the alienation of psychology from the humanities. In the selection of students, graduate departments of psychology are usually more concerned with a background in the sciences than in literature or philosophy (*9*). Of the nearly 50 graduate schools offering a doctoral program in psychology, only one has any formally explicit prerequisites in English, whereas many of them stress the need for a background in the natural sciences. The significance of matter and energy for the problems of human conduct is not immediately apparent, but students selected for psychology because of their interest in physics will probably pursue the physicalist aspects of psychology and draw away from those more directly related to experience, culture, and society. The quality of many psychological publications shows that psychologists have, at least in this respect, succeeded in warding off the intrusion of letters into their subject. All too often, papers are inept in expression, narrow in conception, and so involved in the mannerisms of objectivity that clarity suffers. Style aside, it is an even more potent question whether psychologists who claim to be concerned with the conduct of people would not vastly profit from the universal record of the human condition and its perpetual exploration that literature provides.

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[11] I came to read C. P. Snow's book (*19*) only after finishing this essay, but I was impressed by many similar observations, especially regarding the attitude of the humanities toward the newer disciplines.

This applies to philosophy as well as to literature. Present-day psychology is almost without exception devoid of any philosophical sophistication. Psychologists have little awareness of the philosophical problems inherent in almost any psychological proposition. What is the logical status of the working concepts of psychology? Are they as "real" as much experimental work takes them to be, or are they constructs? What follows from either of these positions? How suitable are the data of psychology for quantification? And what, in consequence, are the scope and limits of measurement? Philosophy functions by examining the presuppositions of individual concepts so that they can be fitted into an orderly relationship with each other. Psychologists may argue that it is not their business to expatiate on the problems which philosophy recognizes in the subjects of other disciplines—perhaps hinting thereby that the problems will disappear if one does not bother with them. At this stage of its development, however, psychology can hardly do without a minimum awareness of the philosophical questions peculiar to itself. Mathematics and physics accept that charge as a matter of course, and it is hard to think of a science which would need more awareness of its philosophical implications than psychology. Encompassing all imaginable human experience, psychology has set itself to study (even though it may plead conceptual eyestrain and other disabilities) how man comes by the image of his world in its entire range, from the chemistry of his retina to the recurrent themes of his mythologies. In short, the very scope and complexity of psychology predicates its relationship to the universalism of philosophy.

The Human Context

Literature, philosophy, and psychology correspond with each other in a perpetual definition of collective consciousness. In order to explain any aspect of human awareness, it becomes necessary to show how it came about or to produce the history of its antecedents. History as a discipline serves two purposes: the specific one of recording the collective events of civilization, and the general one of representing and demonstrating the importance of the historical perspective *per se*. Psychologists have paid little attention to the fact that history, like literature, is an immense storehouse of the data of human experience. Unlike literature, however, it treats of collective action and large scale change. History has its own peculiar problems. We can never know *wie es denn eigentlich gewesen*[12], which Ranke defined as the aim of history writing, for all history is a product of reconstruction, and as such must forever remain incomplete (*24*). Yet despite these limitations, history affords a view of development, a consideration of events from the beginning to the end such as the social sciences can rarely afford. For this reason, psychologists could profitably and properly be more audacious in applying their viewpoint to history, just as Weber has done so fruitfully with sociology. The most important lesson of history, however, coincides with its own endeavor: Nothing in the field of human conduct can be ultimately meaningful unless it is put into context suggesting how the present emerged from the past. It is very nearly a tautology to say that *all* understanding is in the end *historical*. The anti-historicism of present-day psychology consequently must become one of its major liabilities.

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[12] Freely translated, "how it really was when it happened." See Stein (*20*).

The alienation of psychology from the humanities is in all likelihood due to social processes more extensive than the programs of the disciplines and the intellectual proclivities of their members. It is, for one thing, due to the passing of humanist education in our schools; for another, to the increasing differentiation and specialization of effort which made psychology break away from the discipline of philosophy and the method of literature. Neither of these developments is reversible. Psychology could as little be again an aspect of philosophy as the latter could become once more the handmaiden of theology. It is, however, entirely possible for an autonomous psychology to establish systematically a fruitful new connection with the humanities instead of leaving it to the accidents of individual interest. Psychologists as a group might awake to the fact that the humanities are not a set of antiquated fancies, accepted for their age and tradition, but in essence useless for either life or science. The humanities may occasionally be so absorbed in their own rhetoric that they lose sight of the rest of the world, but they also represent an access to man's consciousness more direct than that of the sciences. Whatever foibles the humanist may pursue at times, he possesses the more comprehensive, and probably more vital, portion of recorded human experience. Unless psychologists wish to insist on offering to the world a distorted and incomplete image of man, they cannot continue to reject contact with the humanities.

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Readers on the Record

TO THE RECORD EDITOR

The statement in "*Issues and Items*" (December, 1962), in which certain startling claims were made about the existence of training programs for teachers of the gifted, and in which the term "exceptional" is lampooned as a "reminder of our embarrassment" regarding the gifted, deserves correction.

When we read of "more than fifty programs," our curiosity was piqued. We instituted a search of the catalogues of 498 institutions, including all major colleges and universities in 38 states. The result: We found none offering a "program." Five institutions did offer two courses, and one offered three. Thus, unless the "fifty programs" are to be found in Colorado, Indiana, Iowa, Louisiana, Massachusetts, Mississippi, Missouri, Oregon, Tennessee, Texas, Virginia, or Washington—which we doubt—there are none.

We are strengthened in this observation by the fact that the 1959-1960 survey of education courses in fifth-year programs of education for classroom teachers, published by the Department of Health, Education, and Welfare (OE-58001) and representing 98 per cent of all institutions with fifth-year programs, listed 16 courses on the gifted and 163 on the mentally retarded. Further data are available in *Exceptional Children* for April, 1961, where we find that 14 institutions offered two courses on the gifted in the summer of 1961, and one offered four courses.

In short, while we recognize the need for courses on the gifted, and encourage the expansion of training programs, we ought to recognize sternly and clearly the current dearth of professional programs and the magnitude of the task still before us.

One of the first problems of educators—and, indeed, of all relevantly interested adults—who deal with the gifted is the recognition of their *exceptionality*. A proper awareness of the exceptional attributes of the gifted becomes the basis for concern and planning. In *Webster's Collegiate Dictionary*, we find "exceptional" defined as *forming an exception; uncommon; hence superior*. This statement may help to extend understanding of the term. It unquestionably provides room for the gifted, and it places the embarrassment with those who limit their definition to the handicapped, rather than recognizing that "exceptional" may have constructive as well as remedial connotations.

The Association for the Gifted, one of the two largest divisions of the Council for Exceptional Children, counts among its members many recognized authorities on the gifted, persons in charge of programs at state and local levels, as well as other interested educators and laymen. Through its *Newsletter*, its national and regional convention programs, and the distribution of publications, it seeks to extend professional concern for the gifted.

Inquiries concerning the Association may be directed to the Secretary-Treasurer, Mrs. Mary Pilch, Consultant for the Gifted, State Department of Education, 658 Cedar Street, St. Paul 1, Minnesota.

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Teaching about communism

IN RECENT MONTHS there has been a great demand for new or revised courses in the public schools to teach our students about communism and its threat to the American heritage. News dispatches in the New York *Times* indicate that programs are being proposed or initiated in most of our states to achieve this objective. Florida, Georgia, and Louisiana have passed laws requiring specific courses. A special Committee of the American Bar Association and a joint Committee of the American Legion and the National Education Association have issued comprehensive recommendations. Publishers are scurrying to supply the booming anti-communism textbook market.

Dogma vs. Enlightenment

Most thoughtful citizens will agree that our students should know more about the great issues that divide the world. Liberals and conservatives alike welcome informed teaching in this area. But many of us strenuously oppose the growing pressure to substitute indoctrination for free inquiry. We doubt the wisdom of initiating a campaign, whether at the national, state, or local level, to enforce teaching about communism or democracy. The effect of such a campaign, in the present climate of public opinion, is almost inevitably to instill fear and indoctrination in our schools and thus to weaken the United States as an enlightened nation.

The doctrinnaire approach to which we object is illustrated by a law enacted during the 1961 session of the Florida Legislature. The statute requires a compulsory course for all public high school students on "Americanism vs. Communism.":

> The course shall be one of orientation in comparative governments and shall emphasize the free-enterprise-competitive economy of the United States as the one which produces higher wages, higher standards of living, greater personal freedom and liberty than any other system of economics on earth. The course shall lay particular emphasis upon the dangers of communism, the ways to fight communism, the evils of communism, the fallacies of communism, and the false doctrines of communism.

This course has now been established and its content outlined in detail by the State Department of Education. Although the outline is not altogether bad, it still leaves much to be desired. Typical is the following "discussion question":

> Marxist theory about capitalism was that it would inevitably collapse. Explain the fallacies in this prediction and give the reasons why capitalism remains strong today.[1]

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[1] Taken from the syllabus for the course on "Americanism vs. Communism," published by the State Department of Education, Tallahassee, Florida. In an appendix, this document contains the text of the statute requiring the offering in Florida's schools.

In some localities, there has been a determined effort to preserve the freedom of teaching and learning. For example, there was not long ago a very spirited debate on the issue of indoctrination *versus* academic freedom in a meeting of a Citizens Advisory Committee appointed by Louis Bruno, the Washington State Superintendent of Public Instruction. The liberals managed to insert the following statement in the Committee's "policy recommendations":

> We urge the development in all courses of the spirit of inquiry and the skills of critical thinking—recognizing that our free form of government can stand on its own merits and that its perpetuation is not dependent upon the employment of propaganda techniques.

In implementing the recommendations of his Advisory Committee, Superintendent Bruno and his staff issued a detailed manual of advice to teachers and school administrators. Although ostensibly favoring "critical thinking" and "free inquiry," this publication is marred by many traces of an orientation toward indoctrination. The teachers are told what conclusions they and their students should reach. Communism is characterized by sweeping generalizations, such as the statement that "morality plays no part in the communist way of life" (*1*). Our system is praised as much as the communist system is damned, and there is no suggestion of any serious flaw in the American way of life.

To provide "patriotic" instruction in the public high schools, House Bill No. 235 has been introduced in the 1963 session of the Washington State Legislature to establish a compulsory anti-communist and pro-American course. For the most part, the language of the bill is copied verbatim from the Florida statute. Happily, at the present writing, the Washington bill has not yet been passed.

The record of the Seattle School Board provides an illuminating contrast. In a policy statement on teaching about communism, the Board declared:

> It will continue to be the aim of the Seattle Public Schools to provide for as objective and critical approach as possible in teaching about all controversial issues. Students must be encouraged and aided in free inquiry, in arriving at conclusions only after an examination of all available evidence, in detecting propaganda, and in respect for facts. Conclusions resulting from this type of study will be much more meaningful to students than any which may be imposed upon them. Conclusions thus reached bring about strong and abiding convictions which will enable students to act loyally, discriminatingly, and calmly in resolving great problems.[2]

The Seattle board recognized the danger that a special course on communism might become a vehicle for blatant indoctrination. It wisely maintained that both democracy and communism can best be understood in a variety of appropriate contexts, such as economics, history, geography, and political theory, and that the material should be introduced in the social studies courses when it is appropriate to do so rather than in specially designed courses. The issues should not be forced upon students before they have reached the proper age level, and the manner of teaching should be consonant with the experience and intellectual maturity of the students.

The contrast between the Florida law and the Seattle policy statement points up the issue. The Florida statute makes no distinction between indoctrination and education, and it proposes to use the public school system to instill preconceptions. The Seattle School Board maintains that education should produce the power of discrimination and independent judgment, recognizing that these faculties are essential to a good life and a free society. Thus is the issue joined.

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[2] Mimeographed statement issued by the public schools of Seattle in December, 1961, under the title of "Teaching about Communism."

Ends and Means

The *values* of freedom can be supported only by the *methods* of freedom. The very experience of being free in the examination of facts is the only effective way of learning the values of freedom. The attempt to teach democratic values by the undemocratic methods of indoctrination and propaganda is inherently contradictory, for students will quickly sense the inconsistency and suspect their teachers of hypocrisy. They will become bored or cynical if they see that the educational process is cut and dried. This would hardly provide the basis for genuine loyalty to democracy.

Students must be free to discuss and dissent if education is to be a vital process. They must be encouraged to examine basic and original documents representing opposing positions and to draw their own conclusions. Controversial questions, such as the relation between private enterprise and democratic values, should not be avoided in the classroom. They should be taught *as debatable issues*, not as though there were only one "American" position on these matters. Students will have little interest in rote conclusions and little dedication to the preordained results of propagandistic instruction. When they have learned to reach conclusions on the basis of factual evidence and logical cogency, their convictions will be strong and deep.

The teacher, no less than his students, has a right to come to his own conclusions. He should not be penalized for unorthodox ideas, especially if he presents them as hypotheses to be discussed. A teacher's clear statement of an opinion gives his students the opportunity for an open and honest discussion of the issue. As the students encounter the range and variety of opinions inevitable among teachers, they will be forced to think for themselves. The best teachers encourage them to do so.

There are special problems and difficulties in teaching about communism. It requires rare objectivity and a detailed knowledge of history, economics, and philosophy. Many of the important source materials are communist writings not readily available to many people. Few persons are really qualified in all these areas, especially at the high school level and below. Teachers should not be asked to deal with the subject before they are properly trained. Hasty generalizations should be avoided, and the communist systems should be studied in the spirit of open-minded investigation and debate. Similar difficulties apply to teaching about the American heritage, except that more teachers are reasonably prepared for this task. Success in these difficult ventures will be far more likely if teaching is conducted with professional integrity, free from public pressures.

A basic point is that truth is the first casualty in a cold war. If educators approach the study of communism from a cold war perspective, they will inevitably distort and oversimplify. To understand the dangers, let us consider the meaning of "Marxism."

Are we to understand by Marxism the teaching of Marx himself? Or are we to understand the ideas of Lenin, Stalin, Khrushchev, or Mao Tse Tung? It is uncritical to suppose that what Marx maintained over a hundred years ago is identical with what Lenin or Stalin advocated in this century. It is also uncritical to overlook the deep conflicts between Khrushchev and Mao.

Marx's Complexity

In the case of Marx, we are dealing with an extremely complex thinker whose ideas were not only ambivalent but subject to change and development. Marx once remarked, "One thing I know and that is that I am not a Marxist" (*4*). He was aware of the common tendency among "Marxists" to reduce and distort his ideas, being perhaps as misinterpreted by friend as by foe.

His theory was not a simple-minded economic determinism nor a rigid scheme of historical development. He maintained that the economic system primarily determines the history of a social order, but he believed that all sorts of other forces enter into the very complex interaction of causal factors. Contrary to the usual interpretation of his doctrine, he did not suppose that all history can be arranged in a definite series of stages, beginning with primitive communism and going on to feudalism, capitalism, socialism, and finally advanced communism. He pointed out that feudalism developed as a result of the influence of northern Germanic and barbarian culture somewhat independently of the decay of classical culture to the south. Also he maintained that the historical development in India and China and to a considerable extent in Russia deviated greatly from the pattern in Western Europe. Moreover, he recognized that the future is somewhat uncertain. In 1844, in his *Economic and Philosophical Manuscripts* (*3*), he said that communism may appear in a democratic or an autocratic form, and in his famous speech at the Hague in 1872 he declared that the "emancipation of the workers" may be achieved peacefully in the more democratic countries. Thus, he advocated a complex, multilinear theory of history rather than the very simple unilinear theory that is usually attributed to him.

He also foresaw that communism may take the form of a raw and repressive system. "This entirely crude and unreflective communism," he declared, "would negate the personality of man in every sphere. . . . It would be a system in which universal envy sets itself up as a power, and . . . in this form of envy, it would reduce everything to a common level." "Crude communism," he went on to say, "is only the culmination of such envy and levelling down to a preconceived minimum." He spoke of it as "the negation of the whole world of culture and civilization" (*3*).

These remarks were made in 1844, but in his later works, Marx occasionally recognized the dangers of state collectivism and bureaucracy. In the 1850s he wrote articles for the New York *Herald Tribune* in which he characterized "Oriental despotism," the state managerialism of the old Asiatic societies, as dooming the masses to a kind of "general (state) slavery" (*5*). In his comments of 1871 on the Paris Commune, he emphasized the need for popular control of the revolutionary government, warning against bureaucracy and militarism. His ultimate ideal was to abolish the coercive state and to organize society on a decentralized basis. His works contain a very passionate protest against the dehumanizing process of mass industry, with its tendency toward massive organization and the depersonalization of life. These are not the views that are ordinarily attributed to Marx, least of all in the anti-communist courses now being promoted in this country. It is shockingly easy to oversimplify and distort.

I have discussed Marx, but I might also have discussed Lenin. He was less original and more doctrinnaire than Marx, and he had little appreciation of the more liberal elements in the Marxist tradition. But even he was a complex and ambivalent thinker, as Martin Buber, in *Paths in Utopia*, has made abundantly clear. If we approach either Marx or Lenin in cold war perspective, we are certain to do violence to the facts.

No liberal, of course, would deny that there are totalitarian trends in the writings of Marx. In his criticism of the Gotha Program of the German Social-Democrats (1875), he insisted on the dictatorship of the proletariat as a necessary step in the transition from capitalism to socialism. In the *Communist Manifesto*, he proposed "to centralize all instruments of production in the hands of the state." The Russian and Chinese communists have selected and elaborated these features of the original Marxist creed. But this does not justify an education in the US that oversimplifies and distorts the facts.

The American Heritage

Our American heritage is a different and better tradition than the communist, and the best part of it is the respect for liberty and human rights. We need to cherish the humane and free values of our democratic civilization and to recognize that men and women as pluralistic beings deserve a pluralistic society. The way to combat totalitarianism is not to adopt the methods of repression and indoctrination; this is like trying to save oneself from the threat of murder by committing suicide. It is to ape the worst features of the communist system.

Basic to the American tradition is the Constitution with its Bill of Rights. As Mr. Justice Robert H. Jackson, voicing the opinion of the Supreme Court, declared in a famous public school decision:

> If there is any fixed star in our constitutional constellation, it is that no official, high or petty, can prescribe what shall be orthodox in politics, nationalism, religion, or other matters of opinion, or force citizens to confess by word or act their faith therein.[3]

Or to quote Justice William O. Douglas:

> The Constitution guarantees freedom of thought and expression to everyone in our society. All are entitled to it; and none needs it more than the teacher.[4]

This tradition of liberty has made our democracy strong and our country great. True conservatism would cling to the traditional principles of Americanism, including the liberties prescribed by our Bill of Rights. Intolerance and repression give aid and comfort to extremists who seek to subvert American free institutions.

We are living through a period of great tensions, when men tend to lose their grip on freedom and tolerance. In a crisis situation, there is nothing harder to stand than ambiguity, and frightened men tend to think in black and white terms. There is a kind of historical law at work here—the law that tolerance is characteristic of a period of security and intolerance of a period of insecurity.

It would be possible to cite many historical examples of collective anxiety, such as the story of Titus Oates and the "Popish Plot" as told by Lord Macaulay in his *History of England*. Another absorbing narrative is Aldous Huxley's *The Devils of Loudon*, telling of witchcraft, devil-possession, and burning at the stake during a period of religious crises in seventeenth century France. The fear generated by the French Revolution produced the Alien and Sedition Laws and other excesses during the early years of the American republic.

To cite a more recent example, the tumultous events of the first World War and the Russian Revolution caused intense anxiety in the United States. All over the country there was an exaggerated fear of radicals. Thousands of suspects were seized and bundled off to jail, with or without warrants for their arrest. School teachers were made to sign loyalty oaths; professors charged with radicalism were dismissed; business employees with unorthodox ideas learned to hold their tongues; hundreds of aliens were deported; liberal magazines like the *Nation* and the *New Republic* were denounced; John Dewey and James Harvey Robinson were attacked as radicals, and many federal and state "criminal syndicalism" laws were rushed to passage. When the Red Scare finally subsided, most people realized that the radicals had never represented more than a tiny percentage of the population, and that there had been no real danger of an American revolution.

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[3] *West Virginia State Board of Education* v. *Barnette*, 319 US 624 (1943).

[4] *Adler* v. *Board of Education*, 342 US 485 (1952).

Present Pressures

These sober second thoughts have not prevented excesses since World War II. To find examples, we need only remember Joe McCarthy or the inquisitions of Un-American Activities Committees. In the field of education, the ultra-right is represented by the "National Education Program" of Harding College, which boasts that 25 million people a year come into contact with its propaganda kits, workshops, films, and travelling "experts." This pernicious nonsense is contagious, and it is spreading through not only the South, but the North and the West. The board of the State of Washington Congress of Parents and Teachers, for example, has reported strong pressures from rightist groups, such as the John Birch Society. "Much of the pressure," according to their account, "has centered around the teaching of communism and the championing of Americanism in Washington schools. . . . Concern has hinged on the efforts of extreme conservative groups to influence the curriculum in public schools."[5] Similar reports have come from New York, Pennsylvania, California, and many other states.

Whether American education will succumb to indoctrination or cling to free inquiry hangs in the balance. An encouraging straw in the wind is the recent publication of *Teaching About Communism* (*2*) by the National Association of Independent Schools. One could scarcely hope for a more vigorous and forthright defense of the freedom of teaching and learning. Characteristic is the statement that "controversial issues must be taught as controversial issues, not as problems for which teacher, text, and community provide incantatory answers." Noting the appearance of this booklet and other encouraging signs, Fred M. Hechinger, writing in the New York *Times* on 19 December, 1962, has stated,

> The evidence has become overwhelming that responsible educators have made up their minds against crash programs designed to indoctrinate students. Within a year, the scales have tipped in favor of objective teaching and against panicky "special courses."

This is the conclusion of "responsible educators," but the pressure from less wise and responsible forces continues to be intense.

The proper response to these pressures is to cling the more tenaciously to the Bill of Rights and the traditions of American free education. It is to recall the great truths in the masterpieces of liberal thought, such as Milton's *Areopagitica* and Mill's *On Liberty*, while boldly scouting for new truths and insights. It is to recognize the difference between tested and critical beliefs, on the one hand, and popular emotional beliefs, on the other. It is to reject the sterile dogmas of the street, and to resist rather than to yield to unwise community pressures. It is to appreciate the perennial wisdom in the words of Roger Williams: "None shall see the truth but the soul that loves it, and digs for it as for treasures of gold and silver, and is impartial, patient, and pitiful to the opposers."

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[5] Seattle *Times*, 5 November, 1961.

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Art—the outsider

Is ART AN OUTSIDER in our American culture? The truth was clearly testified to in the most recent showcase of our culture, the Seattle World's Fair. In the French exhibit, the seventh key to the survival of man was stated simply: "Man must refine his essential quality: to feel and to respond. An effective way to reach this aim: practice of an art." In the US Science Pavilion, the final words to departing visitors were in bold type on the exit wall: "Pure joy of knowledge rides as high as art. The whole heart cannot keep alive on either. Wills, as of Drake and Shakespeare, strike together. Cultures turn rotten when they part." Fine words, but why are they needed? What a waste of time it would have been to say such things to Primitive Man, to Classic Man, to Medieval or Renaissance Man. In the long parade of the ages, art was in life, and man lived by and with his art. For twentieth century man this is no longer so.

Today we hear on all sides the cry for the development in our young people of more creative individuality rather than sterile conformity. Much has been done to foster attitudes of independent research in scientific and academic areas, yet the most direct route to creative thinking, art itself, is overlooked.

Young people come to their first school experience ready and unafraid to claim visual expression as their own intimate language, a living tool of feeling and reacting in the wondrous world. We can watch them shrink from it as the literal-mindedness of our world engulfs and claims them. The main line of American education does not include art on its route. It merely allows it to provide brief patches of disjointed scenery which the fast moving young traveller can never touch or claim for his own. Thereafter he must rely on others to tell him which images have value and beauty. The inevitable result is conformity, often to the ugly and meaningless.

We cannot afford to shrug off this fact as an accepted truth of our modern world. No civilization can endure without the ability to experience esthetically. The illness is there, and educators bear a unique responsibility for the cure. Too often, however, their hands are tied by lack of understanding. Protests and directives from enlightened experts are not enough. Exploration of the historic norm and the causes and symptoms of the present dilemma will provide a basis for meaningful action, as it does in all fields of human endeavor. But as long as we insist upon considering art as an indefinable quantity, mystical and available only to the anointed few, so long will it remain an outsider.

The Human Image

Art has always been an essential part of man's life and growing civilizations. The ability to store perceptions and organize them into objects which please and satisfy him, to use his intelligence to create, not only makes man an artist; it is also one of the major abilities which distinguish him from the beast. The men who made the first tools, fist axes, were not only the first technicians and scientists, but the first artists as well. Their will for form was as great as their will for survival. Crude chipping and flaking soon took on order and symmetry, beauty of design. Men modeled their own creations after the world in which they found themselves, beautiful as well as functional. When man speaks of himself as God's image and likeness, does he mean arms and legs, or the ability to make things mighty and wonderful to behold? His art brings man close to his God.

Much of art has been inextricably bound to religion. In times when man felt in control of his world, his God has been humanistic and approachable. When man is the measure of all things, his expression involves a clear ordering of the visual elements of the real world. By the same token, in times of change, turmoil, and uncertainty, visual expression, like religion, turns inward toward emotion and abstraction. When the real world appears unpredictable and beyond our control, its visible image is not serviceable as the means of man's personal expression. This applies today, when the limits and relationships of life are shifting from day to day. We can no more place God directly above us in an infinite universe than we can find adequate expression in the fickle limits of the visible world. The pattern becomes clearer when we look to the past.

Primitive man used art as a form of magic. Against the vast and frightening forces of the world he pitted his own creative skill. The cave man painted the animals he knew so well with infinite care in order to give himself magical control over the game upon which he was so completely dependent. Out of the same need, the primitive tribesmen of Africa and Melanesia shaped masks and effigies to exert influence over sickness, famine and enemy tribes. These works, except in the case of the cave paintings, whose realism served a specific mystical function, were highly abstracted. Their emotional power was stronger that way than if they had been realistically done.

It is often assumed that primitive man did not use lifelike forms because he lacked the skill to do so. This is not so. We have king masks from the Ife Kingdom in Africa, executed almost a thousand years ago, which are as true to life and finely worked as the busts of Roman emperors. In this kingdom, the ruler was so powerful as to be close to God; therefore, his exact image had great power.

As man improved his helpless position, the function of art in his life changed. In classic Greece, men naively felt that they had achieved the ultimate in harmony with and control over the forces of nature. They expressed that confidence in those statues which extolled man's glory just as he was, a child of the gods. Roman art, too, expressed this confident and man-measured order until two great forces shook the known world—the invaders from the north, and Christianity.

In the Middle Ages, the tortured abstractions of barbaric art imposed themselves on the classic forms, just as the new breed of men imposed their rule on the old. At the same time, the mystic religion from the East brought its symbolic and emotional abstract art with it. Again, it is often assumed that it was merely loss of skill, brought on by invasion, which caused classic realism to give way to the simplified and dogmatic early medieval works. Roman art, however, turned toward more emotionally stylized forms long before the major invasions. They came with the growth of Christianity in the third and fourth centuries, as the head of Constantine in the Metropolitan Museum demonstrates so well. Also, the classic works were not destroyed and forgotten, but remained largely intact throughout the Middle Ages. They were there to be used by Renaissance masters, whose point of view was once more suited to realism. It was during the frenzy of building in the Renaissance that much classic work was destroyed to be re-used as materials for the new buildings. For medieval man, in the midst of unknown dangers and an uncertain future, the dogmatic depictions of church frescoes, sculpture, and later stained glass, took on a function reminiscent of the magically protective primitive one.

Renaissance Impact

It is possible thus to telescope and simplify the cycles of development in far distant ages. As we approach the Renaissance we must take a closer look, since we are entering our own cycle of visual expression. We know this well, since we are having great difficulty in replacing the Renaissance standards of draughtsmanship, perspective, and composition in the education of our young painters. Though new forms are evolving all around us, we have no new standards.

The triumph of man's rationalism in the Renaissance, in which classic calm and the glory of man on earth gradually reasserted itself, was both a culmination and a beginning. It was a brief moment, as are all times of calm assurance. The Golden Age of Greece lasted barely 50 years. The High Renaissance in Italy, though it was centuries in the making and has had more centuries of influence, lasted under 25 years, from the time that the architect Bramante arrived in Rome, just before 1500, until the death of the painter Rafael Sanzio in 1520. The scholastic order and humanistic optimism of the thirteenth century was its advance herald. The frantic excesses of the Baroque, with which Catholic artists sought to overwhelm emotionally the increasing numbers of heretics, marked its final demise. As always, art forms reflected the emotional climate of man's world.

Throughout these many thousands of years of development and shift of emphasis in expressive form, the artist's place remained undisputed, his function indispensable. In periods of realism or abstraction, it was the artist alone who could conceive, design, and execute the forms which colored and reflected each age. Artists were the recorders, embellishers, designers, and carvers for the living and for history. With the nineteenth century came changes in our world so profound that they shook art out of its traditional place as an integral part of existence and left it, finally, an outsider.

It is difficult for us to realize fully a world in which all things are made by hand, but this was the case until the industrial revolution. In ancient Greek, the word for craft was the same as the word for art. In such a society, where all utensils, cloth, weapons, decorations, houses, churches, palaces, and chariots were shaped by the hand of the craftsman, the painter or sculptor did not seem far from the realm of the usual. Many people conceived and fashioned things themselves, and the function of esthetic judgment was immediate and vital. This profound and subtle relationship between art and life, known to past ages, has been lost to the average machine-age man.

Gone Forever?

Obviously, all is not as it was, nor is it likely to turn back. Then why look to the past? We have machines to make things for us; let the artist retire gracefully! Then, by the same token, the printing press should have replaced the teacher, for surely books can do what Socrates did as he disputed with his students under the Athenian sky.

We can easily see the error in this line of thinking. The means cannot replace the function. Though the teacher no longer must pass on all information by word of mouth or by writing it down himself, he retains his role of stimulating and guiding thought. Just so, the artist retains his role in society. He perceives and expresses; he stimulates esthetic experience. He is the guide to beauty in man's ever changing relationship with the universe. His tools, however, have changed, and many of his specific activities have been altered.

The most obvious role which painting has traditionally filled, and which has been usurped by other media, is that of portrayal and propaganda. Photography and the motion picture do a much more efficient job and can be mass produced in the quantities and with the rapidity demanded by our fast moving age. The itinerant portrait painter has been replaced by the local photo studio, which may boast an artist with the camera, but usually does not. Occasionally, motion pictures of insight and moving beauty are produced, but more often they are turned out to distract but not enrich the mind and heart of the viewer. So it is all around us. A never ending stream of newspapers, magazines, and advertisements parade before our eyes, but the hand and the spirit of the artist are rarely in evidence in them.

The artist has also given up his role as the primary embellisher of our environment. Instead of frescoes, we have wall paper. Hand carved moldings, rosettes, and newel posts have been replaced by wall board, strip molding, decals, and acres of machine-turned wooden trim. When all decoration was made by hand, inexpensive things had the beauty of simplicity and function. Elaboration came dear, and men will seldom spend much time and effort without excercising feeling and judgment. In an age of mass production and with profit as the basic motive, "decorative" elements flood the visual world—but with a vapid ugliness that dulls the sense of beauty.

It would be an endless task to enumerate the items of mass produced ugliness with which we have been surrounded. Since religion and art are traditionally bound together, churches can serve as an example.

The painter of bison on a shadowy cave ceiling must have had a reverent and spellbound audience, for he provided their major source of religious and dramatic outlet. Similarly, the carvings, vaulted roof, and glowing stained glass of Chartres did not have to compete with mass stimuli and confused values. They were the products of many hands and many years, and they filled the eyes and hearts of all. Both the cave sanctuary and the French cathedral were created locally, to suit the specific needs and outlook of the people who used them. Their forms were vital and meaningful. That is why they are still alive for us today. Mere recreations, fashioned by men who do not share the original experience, are lifeless and empty.

To the nineteenth century, the uselessness of sheer imitation was not apparent. As the machine age shrank the world, a profusion of visual stimuli swept across the oceans. The classic world became known to all, and imitation Greek temples, built of wood, were erected on American soil to serve as Christian churches. The next discovery was the Gothic cathedral, and with the aid of the jigsaw, Gothic-style churches, fantastically embellished, appeared everywhere. This imitative madness is still very much in evidence, with colonial, Greek revival, Gothic, and Renaissance churches being built beyond their time and usefulness.

New Horizons

Just after the war, which so violently shook men's values, Henri Matisse, an old man whose vision was kept young by the living vitality of his art, reaffirmed the link between religion, art, and life. In a quiet town, deep in southern France, he designed and built a chapel for an order of nuns. It uses the materials, the colors, and the shapes of today to state clearly the bond between creative man and his Creator. Though many visitors move through the chapel, there is always silence, for they are caught up in the complete experience of beauty that it provokes.

In the ten years since Matisse finished his masterpiece, others have followed his lead. Harrison and Abromowitz built those three jewels of simplicity, the chapels at Brandeis University. Saarinen built his revolutionary round one at MIT, which encircles and holds the worshipper in a new dimension. The new Air Force Chapel at Colorado Springs employs soaring panels of stained glass, reaching indefinably into space, just as our new perceptual proportions have reached into light years and infinity. The relationship between the inner man and his world, through art, is making its voice heard, but many ears remain deaf.

The technology which makes possible the dynamic forms of the new churches has made changes for artists in areas other than architecture. Designers, using modern materials and modern techniques of manufacture, have reshaped the familiar world of furniture, appliances, utensils, and vehicles. Textile designers have used the new fast dies to produce patterned fabrics of unprecedented gaiety and brilliance. Artists help us to interpret our point of view and change our surroundings.

Creative painters, however, remain the vanguard of shifting perspectives. Technology has changed their materials, as well as the world whose image they portray. After a slow start in the mid-nineteenth century, the number of more permanent and brilliant synthetic pigments, for example, has multiplied until, today, the uncertain qualities of organic pigments have been replaced by the full range of chemically created colors, which seem to reach out to the viewer from the glowing canvases of contemporary painters. Artists, who have ever despaired of capturing the luminous quality of sunlight through golden autumn leaves, find such aspirations at last accessible. The subtle power of Mark Rothko's vital yet perfectly solid expanse of yellow would have been impossible without the intensity, true value, and stable mixing qualities of today's pigments. In addition, the media, or liquids in which the dry pigments are suspended, have changed, opening still more doors. With polyester resins and other synthetics, high glosses, prismatic effects, thick impastos, and the controversial drip techniques are all feasible without the inevitable darkening and cracking of the oil medium. New technical developments make possible new forms, and the creative man will always accept the challenge of novel materials.

The new world which science has revealed also has had its influence. Such things as telescopic photographs of nebulae and microscopic sections arouse the painter's emotions. Most influential of all, however, is the new concept of time and space initiated by Einstein. It has invalidated the old static perspective. As early as 1910, the cubists, under the influence of the philosophic theories which predated the solid scientific discoveries, cast aside academic structure in favor of a more dynamic break-up of spatial masses. Now that the theories have become actualities, and we move into outer space at undreamt of speeds, the essentially formal space concepts of the cubists are themselves obsolete. The action painters strive for a complete elimination of visual space. At the same time, they use ever larger canvases to declare the "I am" of man as he shrinks before the expanding vistas of the universe. Thus do painters carry on the act of perception and expression in the living present, preserving an intimacy between man and elemental forces.

In Our Own Time

Artists know that we must be flexible if we are to adjust to the mysteries of our scientific age. The Impressionist, Cubist, and Post-Cubist painters—Monet, Degas, Van Gogh, Picasso, Matisse, and others who had this flexibility—were scorned and derided by their contemporaries. After a half century, their prints are selling by the thousands, for their conception of color and form is in perfect harmony with the objects we now find pleasing. But what of the painters of today?

To live only with past art is to live without the esthetic experience of our own time. The slow, unsensitized eye focuses only in time to see what was once there, rather than the vital present image. Often it doesn't see at all, but must rely on an interpreter to describe and evaluate, and the unmediated experience is totally lost. It is an experience which must be restored to our young people, for it is an experience of direct reaction and action, vital to the creative individual.

Picasso once said, in answer to those who called his work invalid and meaningless, that he had no right to derogate the Greek language merely because he could not understand it. Art is a specific language of its own, in great disuse because it is not taught. We know that in the teaching of English, or any other language, it is not enough to let the students dabble, no matter how "creatively." In addition, they must read widely in past and current works and understand spelling and syntax. Above all, they must not have their education entrusted to illiterates. Not until educators learn the language of art can we begin to bring the outsider in. But he bears gifts we sorely need, and a more general increase in our artistic literacy is urgently called for.

For the Record

Brainy but bearded

THE TEMPER OF OUR time may be meaningfully summed up in three terse terms: science, specialization, and industry. We distinguish ourselves from our forebears primarily by virtue of the centrality of our response to the enterprise of science, our demand for experts, and our reliance on the machine as it is corporately operated to produce the material aspects of our life.

Of the three compelling forces of our age, industry is perhaps the most comprehensible. Our remarkable standard of living is a direct function of our industrial skill and the magnificence of our industrial plant, and the position of power occupied by the United States and the other free nations of the world is currently dependent on our industrial talent for contriving and producing intricate and devastating weapons and the mechanisms necessary for the exploration of space. From the gadgets in our homes and the ubiquitous automobile to the latest rocket and atomic warhead, we are confronted with the extent to which we rely on industry for our comfort, our safety, and even our national self-respect.

Further, industry—including industry in its military partnership with government—is the great consumer of science and expertise, the institutional support of research men and a whole cast of specialists from advertisers and attorneys to astrophysicists and zoölogists. The success of industry in meeting the demands we place on it requires the harnessing in ever increasing quantities of a wide variety of talent to the corporate machine. Thus, it is the industrial criteria of worth and utility that largely determine our positive regard for science and specialization. Scientists and experts are the people who make the industrial wheels go 'round, and their constant turning at an accelerating rate supplies all of us with both our pleasures and our sense of supremacy in our conflict-rendered world.

Educationally (which is to say, culturally), this state of affairs has two major implications. One bears on the internal *Zeitgeist* of our country—and perhaps on the identifiable spirit ot any industrialized nation. The other is related to the network of international commitments that develops inevitably on a globe as shrunken as ours.

If we turn first to the domestic issues, we may find that the notion of industrial preëminence casts an illuminating ray across our dark concerns of recent years with conformity as a major social and human problem. Many of the *cris du coeur* that have been uttered on this score have extolled the individuality of our frontier tradition, betraying a nostalgia for a past that never was and a blindness to a present that intensely *is*. The accusation that we have become a sheeplike people, while not without its uses, overlooks at least two immediate facts: the enormous diversity among Americans in all walks of life and the equally enormous convergence of personal styles within so-called nonconformist groups. To see conformity in action, one must attend a beatnik den, where commonality in dress, speech, morals, and outlook reaches a striking high. However different these self-appointed opponents of conformity may be from the norms of their larger society, they seem to tolerate little diversity within their smaller one. Similarly, the romantic concept of frontier life as a freebooting expression of individualism requires that we forget its lessons in cooperation. The quilting bee, the communal raising of a new family's rooftree, and the shared stockade for protection are as much a part of our history of wilderness-breaking as is the theme of solitary resourcefulness. Collaboration is hardly a new *motif* in America or, indeed, in any place where men gather together to establish and maintain societies and civilizations.

What may be new is the present-day extent of our collaboration. The industrialized efficiency on which we have come to depend—and with which we cannot do without—demands that each of us become more specialized and therefore more interdependent. The complexity of our great technological machine requires that most of us grow more expert in narrower and narrower domains, contributing a smaller and smaller part to a totality that becomes ever more difficult to understand. As a result, we find our friends among those who share the same restricted range of developed interests and who reassuringly prize the same skills; we find our self-esteem in large part from competence in craft—whether the craft of the assembly line or the craft of corporation law—and we more or less understandably find surcease in tranquilizers, mass entertainment and spectator sports, and riotous vacations from which we return a little tired, a little puzzled, and still susceptible to the restless boredom on which psychiatrists and their clinical brethren nervously comment.

The issue is less one of conformity than of *fragmentation*, a concern for parts without a sense of participating in the process of synthesis, a preoccupation with feeding the societal machine without involvement in the decisions affecting how or whether it should be run. Hardly sheep, we are in large numbers a society of interdependent experts, highly trained for our specialized livelihoods but hardly well educated for living well in humane terms in a complex society. The image that comes to mind is that of the barbarian (the "bearded one") of old, fiercely competent at the technical arts but untutored in the complexities and requirements of civilization—a bull in the china shop of political subtleties, a goat in the soft and nourishing grasses of the arts, a lost and angry bird in the wider reaches of cultural life.

The image holds when we turn to our second consideration, the implications of our industrial development, with its concomitant emphases on science and specialization, for our international enterprises in this age of a democratic-totalitarian conflict. The primary demand levied upon us by the emergent countries of the world is for aid in their own industrialization. For them as for us, industrialization in the modern sense is the central route to an improved standard of living and greater national safety and autonomy. If they are to industrialize rapidly, they must borrow ideas, equipment, and technical knowledge from either the communist or the free sectors of the planet. This situation draws "technical assistance" into the orbit of the democratic-communist struggle and defines an urgent need among its participants for the exporting of scientists and experts both to aid in the process of modernization in Africa, Asia, and Latin America, and to convince the peoples of these continents that modernization can best be accomplished within a particular ideological context.

Our fragmented emphasis on efficient expertise, however, is likely to put a higher premium on the first requirement—rapid industrialization—than on the second one of persuasively demonstrating the more humane values of a democratic *Weltanschauung* or, even more to the point, assisting indigenous people to evolve, critically and knowledgeably, their own authentic social doctrines and political styles as members of the world community. Our ingrained familiarity with the industrialized society *as we know it and have brought it into being* accords a place of honor in education to the production of experts; and the concepts and values of the specialist compose more and more of the figure of the educational scene, while those of the broadly cultivated man, the quiet exponent and exemplar of humane traditions, recede into the ground. In consequence, we run the risk, without quite knowing it, of exporting to the world's new nations a group of technical barbarians, brainy but bearded with the whiskers of human fragmentation that grow over our civilized visage at home.

True enough, there are promising developments in today's educational thought and practice. Industrial leaders like Clarence Randall speak vigorously for the liberal education of business executives, and many schools of engineering—MIT being a notable but by no means the only example—have introduced in meaningful ways the traditions of civility into their curricula. What is often called conservatism is frequently (if far from always) a somewhat paradoxical attempt to criticize on liberal grounds the implications of our industrial age for the development of personality and a genuine sense of community.

One may applaud these efforts, however, without regarding them as anywhere near enough. The great danger from the barbarian of yesteryear was that he was simply not a fully developed man; he lacked the cultivated resources for civilized living that have been the necessary condition for the greatest and most consistent human achievements and the most complete attainment of the individuality to which we all give at least lip-service as a prime value. It must be remembered that one does not find individualism exercised most freely and appreciated most profoundly in barbarian cultures but in civilizations. It must also be remembered that civilizations are quite capable of falling into decay or of destroying themselves. The time has come when perhaps we must attend to the possibility that in gearing our educational practice too intimately to the dominant themes of industrialization, we are undermining our own future. Such may well be the case if we are producing, both for assimilation at home and for export abroad, a fragmented technician, an expert who is more brainy in his weaponry but as bearded in his cultural perspectives as the Hun of old.—EJS

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When teachers strike

STRIKES BY TEACHERS in America have been sporadic and local. The importance of state governments and of local school boards has made the issues for which teachers have struck largely local ones, usually involving demands for improved salaries. Strikes tend to occur either during a depression or after a war, when there is a general inflation which adversely affects the fixed salaries of teachers. There have been over 130 teachers' strikes since 1918. In 1946, 1947, and 1948, some 12,000 teachers in 48 communities struck for an average of 9.6 days each (*4*).

An analysis of the noneconomic conditions which seem related to teachers' strikes suggests that such conditions include disinterest in education, misunderstanding of the needs of teachers, inadequate bargaining procedures, and the build-up of teachers' organizations (*2*). The American Federation of Teachers and the National Education Association have generally adopted a "hands off" attitude toward those strikes which have occurred, although the press has generally actively opposed them.

One reason for the special interest surrounding the recent New York City teachers' strike is that there is a state law that prohibits strikes by public employees under penalty of instant dismissal. Whenever there had previously been a threat of a strike, the possibility of the law's being invoked served as a sufficient deterrent. In April of 1959, however, a city-wide one-day work stoppage, called by the Teachers' Guild, was cancelled the day before it was to occur because the city agreed to make some concessions. In May of 1960, the Guild, which had changed its name to the United Federation of Teachers, called another city-wide one-day work stoppage. This was also averted the day before it was to occur. These two threats of stoppage, each of which led to fairly substantial gains from the city, created a background of great tension for the city's first full-scale strike, which was scheduled to begin the Monday preceding Election Day, 1960. The strike was called to give teachers professional status by forcing the city to agree to collective bargaining.

The strike call was issued by one union, the United Federation of Teachers, to all of New York's 40,000 classroom teachers, although the Federation claimed only some 25 per cent of them as members. All teachers were asked by the union to honor picket lines. Although the Federation is an affiliate of the merged labor federation, the strike was opposed by most of the other major teachers' groups. On the first day of the strike, city authorities said that 4,600 teachers stayed out, and there were approximately 2,000 pickets at 267 of the

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city's 800 schools. The superintendent of schools suspended every one of the strikers. Late on the next day, which was Election Day, the strike was called off by mutual consent after intervention by some nationally prominent labor leaders. The strikers agreed to go back to work in exchange for the assurance that there would be no recriminations against them.

The Interviews

This study was conducted by interviewing all the teachers and a sample of the parents at an elementary school, a junior high school, and a high school in New York during the weeks preceding the strike. The results from the high school and the elementary school will be reported separately; this is a report on the junior high school. The school studied had a student population of approximately 1,500 plus 60 teachers and administrators of whom 28 were female and 32 male. Their mean age was 42 and mean teaching service 15 years. The ethnic composition of the student body was varied, with Jews, Puerto Ricans, and Negroes substantially represented. The socioeconomic status of the students' families ranged from lower-lower to upper-middle class.

Interviewing was conducted with each of the faculty members of the school at various off-school locations and after school hours. The students (686) were interviewed either in their homes or at nearby recreational facilities. Every second student in each class was interviewed, except for those who were ill or unavailable. The parents were interviewed separately in their homes, independently of their children; 463 mothers and 223 fathers were seen. The parents thus sampled were those of the students interviewed, and it was possible to reach 98 per cent of the parents of the student interviewees. Background information on social class membership was obtained from the respondents themselves.

Inasmuch as one purpose of the study was to explore the differential perception of the strike by the three different groups—teachers, students, and parents—all interviewees were asked the same question: "What do you think of the teachers' strike that is scheduled to take place?" No other specific questions were asked, although encouraging phrases like, "Could you tell me a little more about that," were used when a respondent appeared to have difficulty in verbalization. The interviews were conducted in the three weeks before the strike was scheduled.

A preliminary content analysis by the investigator led to the establishment of various content categories. Each interview was coded independently by two content analysts, and any disagreements in coding were resolved by discussion. Interview content which did not lend itself to the categories which had been established was coded later in accordance with the same procedures. A computation was then made of the frequency with which each theme was expressed by the respondents in each group, and appropriate cross-tabulations were conducted.

Parental Perceptions

The median parent interviewed voiced 1.86 themes connected with the strike. The incidence of each theme, in percentage of parents mentioning it, is indicated in Table 1. Some examples of each theme are given below.

What will children do? (38 per cent). These parents expressed concern over their children's activities if there were no school. One such parent said, "All I know is that my children would be out of school. And God knows what trouble they could get into." Another said, "I'd

Table 1

Percentage of Parents
Mentioning Each Theme
N = 686

Theme	%
What will children do?	38
Setting a bad example	21
Appraisal of situation	21
Teachers need help	19
Teachers have an easy job	12
Sex differences	12
Personalization of attitudes	11
Teachers' obligations	10
Attitudes toward labor	10
Teachers are not workers	9
Bad business practice	8
Use other methods	8
Teachers worth less	6
Comparison with other groups	6
Trouble	5
Child's education will suffer	5
Make up time	4
Teachers do better job	4
Increase in taxes	3

be very mad. I go to work, and what would I do with the kids. They eat at school, and they are taken care of."

Setting a bad example (21 per cent). This theme was expressed by respondents who were concerned about their children's emulating the teachers' bad example in striking. One parent said, "A teacher is supposed to be someone to look up to. I feel that the teachers are setting a very bad example for the teenagers and their reactions. After the church and the home, the school is the third place."

Appraisal of situation (21 per cent). These parents perceived the strike in a relatively unbiased way. One said, "The strike is very important to me because a strike would interrupt my child's education. The teachers are entitled to a raise in salary considering their long years of preparation. Yes, I would like to have this come to an end in a very amiable manner. But the city doesn't seem to be able to give them more money unless they ask for it."

Teachers need help (19 per cent). Parents who expressed this theme wanted teachers to get some help. One said, "I think something should be done to help them and elevate their status. There is no finer work for a man or woman than being a really good teacher."

Teachers have an easy job (12 per cent). These parents stressed the ease of the teachers' work. One said, "The teachers make me a little sick, if you know what I mean. They have it pretty soft. Three months vacation and all. Standing up in front of some kids and talking. Lots of people work a lot harder and don't make out so well. If you take into consideration all the time off, per hour they receive a good rate of pay." Another said, "When the paper runs a feature on a poor starving teacher who makes $7,000 a year for his family of four, there are many people, including me, who lose their pity."

Sex differences of teachers (12 per cent). The relevance of sex differences was mentioned by these parents. One father noted, "The men teachers who are going out on strike are justified because they have families to support. But a woman is different; she doesn't need the dollar as much as a man."

Personalization of attitudes (11 per cent). These parents related their view of the strike to their attitutes toward specific teachers. One parent said, "I don't like the idea of a strike any more than I like my daughter's home room teacher. I don't particularly care for her. My daughter comes home very confused sometimes. She claims that the teacher doesn't teach in a clear way. I guess that she belongs to that progressive group or something." Another parent said, "I'd feel sorry if some of our local teachers would actually walk the picket lines.

Some of them are so old, I don't think that they could walk too long."

Teachers' obligations (10 per cent). The view that teachers shouldn't strike because of their obligation to their students was expressed by these parents. One said, "I think teachers have an obligation to students. They shouldn't make a business proposition of the whole thing."

Attitudes toward labor (10 per cent). These parents perceived the strike through their attitudes toward labor. One parent said, "I wouldn't let my kids go to school through picket lines. I think they ought to learn to respect them." Another said, "I'm a union man. I don't know the details of the strike, but I'm for it."

Teachers are not workers (9 per cent). The theme that teachers are not like other workers was expressed by these parents. One said, "Teachers aren't workers. You don't see Congress or the police striking or the army striking, do you?" Another parent rhetorically asked, "Can we compare our teachers with the roughnecks of the waterfront or coal miners? After all, teaching is a calling and not just a job."

Bad business practice (8 per cent). These parents were concerned that it was not sound business to permit a teachers' strike. One said, "When private corporations are losing money or have slim profits, their workers don't get raises. Here the city is in a bad way financially and is not obligated legally or morally to grant larger increases than they have indicated they can do. It is simply bad business practice to give the teachers more money and bad to let them strike."

Use other methods (8 per cent). These parents mentioned methods other than a strike that teachers should use to achieve their goals. One said, "Can't they petition Washington, or take ads in the newspapers, or write the Governor for more state aid, or something like that, rather than strike."

Teachers worth less (6 per cent). These parents questioned whether some teachers were worth their current salaries. One noted, "About half the teachers I have met seem unsuited to their jobs, and not worth the money they get. While raising pay, I would raise standards too."

Comparison with other groups (6 per cent). These parents pointed out that teachers earned less money than other groups. A typical comment of this type was, "When you think that truck drivers and garbage collectors make more than a teacher, it is very unfair. There is no possibility of their going to work for anyone else, the way other workers can. There is no one else, just the New York Board of Education."

Trouble (5 per cent). These parents saw trouble resulting from the strike, no matter what its outcome was. One commented, "I'm afraid there will be bad effects afterwards. Maybe the teachers will be beaten and become surly. Or maybe the Board of Education will accuse them of being communists or something else that will worry the pupils. Or maybe the pupils will side entirely with the teachers and lose respect for the school and its authority. Only trouble can come from this strike."

Child's education will suffer (5 per cent). These respondents were concerned about the strike's affecting their children's education. One said, "Naturally, the strike is very important to me since the care and education of my child is at stake. If the teachers went out, it would mean my child would not progress in her educational pursuits for her particular age group."

Make up time (4 per cent). These

parents focused on making up the time lost in school by the strike. One father said, "If the strike took place, I would merely spend more time with my youngster and attempt to make up the teaching that they are missing."

Teachers do better job (4 per cent). Some parents felt that the strike would help teachers do a better job. One said, "I feel teachers should stick together even though it will be detrimental to my child's education. I wouldn't want my child to be taught by a dissatisfied person."

Increase in taxes (3 per cent). These respondents felt that a successful strike would lead to an increase in taxes. One said, "If teachers got a raise, it would mean higher taxes, but I'm still for a raise. I would be willing to pay a slightly higher tax. Or, they could lower the teachers' taxes."

Some Relationships

Cross-tabulations of the parents' responses were accomplished in terms of several dimensions. Parents who had a union background were generally in favor of the strike. Those who were professionals or enjoyed higher social status tended to be opposed to it. Parents who spoke a foreign language at home knew least about the strike, and those with a European background tended to be opposed, saying that their high esteem for teachers had been violated by their threatening a walk-out.

Every parent interviewed knew about the forthcoming strike. Merely introducing the subject, in most cases, seemed to elicit an adequate response. Almost no parents were well informed on just how much money teachers actually earned, although this lack of information did not inhibit their voicing their opinions. Most parents seemed to derive their specific attitudes toward the strike from their general attitudes toward school and children, rather than from their specific relationship with a particular teacher. Membership in the PTA was not related to specific attitudes toward the strike. In every case but one, husband and wife shared the same attitude.

A number of parents cited "information" about the strike which they quoted from mass media. The "information" was usually consistent with the specific point of view expressed. Thus, one mother alluded to some newspaper articles she had read on the plight of some Southern students who had been shut out of school by the desegregation battle. "I feel sure something terrible like that will happen to my son in this strike," she said.

Parents who regarded their child's teacher ambivalently tended to be ambivalent about the strike, whereas those with consistent feelings about the teacher tended to have consistent feelings about the strike. Parents who were envious of the teacher tended to express distaste for the strike.

Not one parent interviewed had discussed the strike with any teacher at the school. Some had wanted to but did not do so because they didn't know the teachers' views and didn't want to embarrass them. The parents who had teachers as relatives were more likely to be opposed to the strike than were other parents. The major reason here seemed to be that the dignity which these parents associated with the teaching profession would be violated by a strike.

Student Reactions

The median student interviewed voiced 1.82 themes connected with the strike. The incidence of each theme, in percentage of students mentioning it, is indicated in Table 2. Some examples of each theme are given below.

Days off (41 per cent). These students

Table 2

Percentage of Students Mentioning Each Theme

N = 686

Theme	%
Days off	41
Personalization	28
Student rights	21
Appraisal of situation	21
Right to strike	20
Specific teachers' behavior	13
Sets an example	12
Extracurricular activities	9
Use other methods	6
Teachers' views	5
Wrong to strike	3

were aware of the strike as an opportunity to take time off from school. As one student said, "I was happy. I thought we would be getting days off." A related theme was set forth by another student: "If the strike lasted a few weeks, and it meant we would go to school later on in July to make up what we missed, I wouldn't want that."

Personalization (28 per cent). The students who made comments of this type spoke about specific teachers. One student said, "It depends on which teachers go on strike. There are a few in school who I'm sure would go. For instance, my math teacher. If one of my classmates asks a question when the period is almost over, she says she has no time to answer it or something. But I would be surprised if my last year's shop teacher went on strike. We were going off for the Christmas vacation, and at the last shop meeting before, some of the boys wanted to finish their project. He let us work there after school or during school if we were excused from other period or something. Or, you take my English teacher. He's an old teacher, and he just would not do anything he thought was against the law. Everything with him is rules."

Student rights (21 per cent). These students took the issues of the strike almost literally into their current life situation. One respondent said, "When I heard that the teachers were going out on strike to get more money, I decided to ask my parents to increase my allowance." Another reaction was, "The other kids in my class decided to go on strike against one teacher, because he was giving us too much homework. If our teachers can strike, so can we."

Appraisal of situation (21 per cent). These respondents made a relatively disinterested appraisal of the situation. A typical response of this kind was, "I don't think they would want the teachers to go on strike. Most of them are good teachers, interested in their work. If they got more money, they'd do more work and be happier doing it. As for my work, I don't think there would be any change, except that if we got along with the teachers better, we might do our work better."

Right to strike (20 per cent). These youngsters explicitly encouraged the teachers' going out on strike: "I think they were entitled to a raise. They work hard. I think the teachers should get more money. I think that they have just as much right to go out on strike as anyone else."

Specific teachers' behavior (13 per cent). These students would base their response to the strike on how teachers of specific subjects would respond to it. One 14-year-old said, "I don't know. It depends which teachers went out on strike. If the teachers who teach the majors would go on strike, I probably wouldn't go to school."

Sets an example (12 per cent). These pupils referred to the extent to which the teachers' strike behavior would serve as an example to the students themselves. Thus, one said, "The teachers are going out and fighting for what they think is right, and this is a very good example for us children." Another student said, "I don't see where people who are helping the city should go out on strike in front of all these teenagers. I think it sets a very bad example."

Extracurricular activities (9 per cent). Some children felt that perhaps there might not be a strike, if teachers ". . . could stop extracurricular activities or something like that." Other students felt that if teachers won more money by a strike, "They would be more willing to do extracurricular activities for the student body." A third point of view was that, "If a teacher really wanted to help students and to show some interest, she would first try to help out in extracurricular activities and then ask for extra pay. She should not say that if you give me the money, then I'll help."

Use other methods (6 per cent). Methods other than the strike were urged by some students. As one said, "If they were going to get the money at all, the money could be obtained by other means. A strike will lose face for them, money for the city, and education for the children."

Teachers' views (5 per cent). These pupils reported comments by their teachers. One quoted a teacher as saying, "I want you to be ready outside with guns; I want you to help me carry the signs." Another teacher was reported as saying, "I won't strike because I'm 'chicken.'" "No, she wasn't afraid to say it," the informant commented.

Wrong to strike (3 per cent). These boys and girls explicitly condemned the strike. One said, "If I saw any of our teachers walking with picket signs out in front of school, I would have felt that they were making ridiculous fools out of themselves. They are wrong to strike."

Identification and Attitude

The students interviewed all knew about the strike. Their attitudes were much more likely to be those of their teachers than those of their parents, suggesting that, at least on this issue, identification with the teacher was more significant than identification with the parent. There was no relationship between parents' socioeconomic status and their children's attitudes towards the strike.

As a group, the boys were more interested in the strike and spoke more affectively and extensively about it, than did the girls. It is possible that this was because the school had slightly more men than women teachers, and the students tended to identify with the teacher of the same sex. Students in smaller classes were more likely to have views similar to their teachers' than students in larger classes, probably again because of their greater identification with the teacher. There appeared to be a relationship between degree of academic success and their attitudes toward the strike. Students who were doing worse than the school median tended to oppose the strike, apparently because they assumed that the teachers were in favor of it, and they were against the teachers' putative desires. The better students tended to be for the strike, apparently because they saw it as an opportunity for the teachers to get some glory in which the students could share.

Teacher Views

The median teacher interviewed mentioned 3.31 themes in connection with the strike. The incidence of each theme, in percentage of teachers mentioning it, is indicated in Table 3. Some examples of each theme are given below.

Relationships with superiors (32 per cent). How their strike behavior might

Table 3
Percentage of Teachers
Mentioning Each Theme

Theme	%
Relationships with superiors	32
Union ambiguity	31
Status	31
Evasion	28
Difficult work	24
Non-identification with picketing	21
Individual vs. group	19
Students	18
Idealistic reasons	17
Non-intimidation	14
Identification with labor	14
Strike illegal	13
Older teachers	13
Salary not enough	12
Sex differences	12
Professional identification	12
Teachers earn enough	3
Appraisal of situation	3

affect relationships with their superiors was the concern of these teachers. One asked, "Why become involved in something that is condemned by the superiors? Why chance a possibility for advancement to department chairman or assistant principal by striking for a few dollars a week?" A substitute teacher reported, " The strike puts me in a very precarious position. Substitutes are unsure of being rehired, as my principal made it very very clear to us in my school. There is a rumor that he is working for the position of assistant superintendent."

Union ambiguity (31 per cent). Other teachers complained of the uncertainty of their unions' status. One said, "Where there is unity there is strength. And those teacher groups have no unity and no strength." Another said, "The union situation is so confused, I don't know what to do about the strike. I don't belong to the Guild, and I therefore don't have a vote in these decisions. I really don't know what I think. The whole thing seems to be a union jurisdictional dispute."

Status (31 per cent). A number of faculty members related their attitudes toward the strike to their status within the school system. One older teacher said, "I'm on maximum salary and have tenure. I feel that I have nothing to gain and much to lose by going out on strike." A probationary teacher said, "I'm awaiting my license and am afraid that I might be denied it if my participation in a strike is recorded." Another said, "I like being in my school and in this neighborhood. I might be transferred if I strike." A substitute remarked, "I'm a substitute and don't care at all about the strike. As a sub, I have nothing to fight for by going out on strike and nothing to lose if I do. So it means nothing to me." A school clerk said, "I work for the Board of Education, and I don't regard the teachers in our school as fellow employees, any more than they see me as an equal."

Evasion (28 per cent). These respondents planned to engage in some kind of evasive action. One said, "I really can't face this issue. I plan to avoid the picket lines by going to school so early in the morning that I will arrive before they have been established. Leaving will be no trouble because the pickets are leaving for a rally at 2:30. Once, when a union picketed City Hall, I was embarrassed to do that too, so I claimed I had some sort of important appointment that afternoon. But I was able to avoid the scorn of my fellow teachers in the union by first driving a large group downtown and leaving from there."

Difficult work (24 per cent). Some teachers stressed the difficult nature of their work. One noted, "Teaching facilities are poor; the hours are too long (figuring time spent both in and out of the classroom), and the classes are too large.

Teachers are overworked, and they are put to work being policemen." Another teacher complained, "I have too many students. We don't work five or six hours a day, as the majority of people think. There is a great deal of planning involved. You can't just stand in front of a room five hours a day and expect to go on and on, without doing constant preparation."

Non-identification with picketing (21 per cent). These teachers expressed their lack of identification with picketing and with the strike. One said, "I certainly am not in favor of a strike. I consider it degrading and demoralizing to walk around with picket signs." Another complained, "I am not a factory worker who has to go out on strike if the union calls it."

Individual vs. group (19 per cent). The role of the teacher as an individual in contrast to his being a member of a group of colleagues was questioned by some teachers. One asked, "Who are we as teachers? Are we solely civil service employees to be directed, or can we feel the warmth of a group spirit working within a common field of interest?"

Students (18 per cent). A few teachers discussed their relationships with students. One said, "I feel so embarrassed when I see pickets. You could imagine how I would feel if I were in their place, except that instead of strangers seeing me, I would be in full view of my students, whose respect I really strive to attain. We expect children to oppose authority but not teachers." Another said, "Imagine how I feel in disciplining them when they say, 'My father makes more money than you, and who do you think you are to tell me what to do when you can hardly make a living without a strike?'" Another asked, "In my school we have enough of a discipline problem without taking away the little respect that the students might have for the teachers." Another noted that, "The kids want a strike. They're egging us on."

Idealistic reasons (17 per cent). Some of the staff stressed relatively intangible reasons for their support of the strike. One such teacher said, "I'm going out for more idealistic reasons, and I believe most will go out for these reasons—recognition as people and as professionals. I look upon this strike as a personal challenge. When the superintendent of schools talks about the welfare of the children, I wonder why he didn't think of their welfare when he was offered his job at $25,000 and wouldn't accept it until it was $32,000."

Non-intimidation (14 per cent). These teachers were going out on strike because they did not wish to be browbeaten. One said, "I question the Board of Education's methods of intimidating and threatening us, and I'm going out on strike to spite the Board. I don't like the way they talk down to us as if we were children, either. The use of coercion and the threat of losing my job don't faze me."

Identification with labor (14 per cent). In some cases, teachers expressed identification with labor. "I can't let labor down," said one teacher. Another said, "The union is no good, but it's a union. I'm striking."

Strike illegal (13 per cent). But illegality of the strike was cited by other teachers. One said, "The law prohibits a strike, and I won't do anything illegal."

Older teachers (13 per cent). Some younger teachers specifically spoke about their older colleagues. One said, "There has never been a strong teacher's bargaining organization. This is really the fault of the old teachers who don't care what happens to the new teachers, because they are all set to retire."

Salary not enough (12 per cent). Comments about low salaries were made by only a few teachers. One young teacher said, "Conditions are very poor at the starting salary level. The newly appointed teacher's take-home pay is only $62.00 a week. I feel that teachers are the most underpaid group of professional people."

Sex differences (12 per cent). The differing needs of men and women teachers occasioned comment. According to one woman teacher, "These men have families to support, and with the cost of living rising so steadily, they are getting desperate. In general, most of the women teachers are managing quite well. The teacher's pay which is the second salary coming into a home is quite substantial."

Professional identification (12 per cent). For these teachers, the strike reinforced their professional identification. One said, "It's the first time I've felt part of a profession that is active. As a new teacher, the feeling of a wider order than the small empire of my class is a new one for me and a very interesting one." Another said, "We are supposed to be professionals but we know it is only a phantom and unreal thing."

Teachers earn enough (3 per cent). Occasionally, a teacher felt he earned enough money without a strike. One said, "We shouldn't strike. We do all right. The average businessman can't be assured of $9,000 gross per year, but we can."

Appraisal of stiuation (3 per cent). In this category fell the infrequent statements about the strike that seemed relatively disinterested. One such statement was, "For the past fifteen years teachers have tried to get a decent salary. They have set up working machinery to bargain with the Board of Education. They should be given a chance to air their grievances. But the Board of Education is in a difficult position; it has the responsibility of keeping expenses down."

Authority and Identity

Cross tabulations of the teachers' responses suggested some of the background variables related to attitudes toward the strike. The teachers who intended to strike generally tended to refer to the teachers as "we," whereas those not intending to strike tended to refer to teachers as "they."

The teachers who referred to their principal as a factor in their attitudes were generally not intending to go out on strike. Union membership itself did not seem to be a significant variable, probably because of the confused situation with respect to the many different and competing unions. No teacher had decided to join a union as the result of the imminent strike, although a number said that they had decided against joining a union, also probably because of the confused union situation.

Younger teachers and those with advanced degrees tended to favor the strike, and older teachers tended to be opposed to it but also more ambivalent, many because they were torn between the security of their relatively established positions and salaries and their commitment from earlier days to ideals of labor and militant action. Some of these older teachers had previously been active union members.

Men teachers were more likely to be in favor of the strike than women, although age was more closely related to attitudes than sex. Religion was not related to attitudes toward the strike, nor did marital status, in either men or women, seem to be a significant factor. The presumably greater interest in earning more money among the married teachers was counterbalanced by their caution about getting into difficulties with the authorities.

Every teacher who said that he had discussed the strike in class was also favorably disposed toward striking. Almost every teacher interviewed stressed that the decision was a difficult one which had to be faced and resolved by the individual. The attitude toward striking seemed consistently related to the attitude toward authority. For almost each teacher, the imminent strike provided a salient opportunity to assess his role as a teacher and as a member of the community. Teachers who were also parents of school-age children were more likely to be in conflict about the strike than were non-parents.

It is interesting to note that practically no teachers mentioned the parents of their charges as related to their attitude toward striking. This state of affairs perhaps reflected the special anonymity of social relationships in a large city.

Some Trends

It will be observed that the parents' responses to the situation posed by the strike were quite diffuse. The greatest proportion of their comments had to do with teachers rather than with their children. The teachers' response to the strike was much more localized, with the greatest proportion of the teachers expressing themselves on their role and their relationship to various symbols of authority. Students had the most direct and personal response to the strike. They also had fewer percepts, perhaps reflecting either their youth and lack of range of experience or the lesser salience of the issues for them.

A few of the percepts were expressed by more than one of the three groups interviewed, thus permitting some comparison of their relative strengths. For example, almost twice as many parents as students made a disinterested appraisal of the situation, but only a very small proportion of teachers made such an appraisal. Almost twice as many parents as students perceived the teachers as setting a bad example for their students by striking. More than three times as many students as parents personalized the situation, and almost as many parents as students were aware of the free time that would be provided by the strike. The same proportion of parents as of teachers commented on the sex differences in teachers as factors in their salary requirements.

Apart from these few percepts voiced by all three groups, the strike tended to be perceived quite differently by each of the groups. There was little role consensus or agreement among the respondent groups on what they expected of themselves and of each other in the face of the strike situation. Normative reference groups that might ordinarily provide guidelines did not do so. The responses are reminiscent of an earlier study in which an employer and union organizer made parallel reports on what happened in a particular plant, demonstrating great disagreement about what actually happened (*1*).

Among all groups, there seemed to be considerable uncertainty about what the teacher's role consisted of and of the dimensions of that role that were most relevant. Just what constituted appropriate professional standards to be followed in the strike was clearly a subject on which there was little agreement. The roles of parent and student were also rather unclear. The findings here suggested that the strike provided a vehicle for the expressions of personality factors and of many preëxisting attitudes by and toward teachers, and that the attitudes of teachers, parents, and students toward the teacher's role are not consonant with one another.

The strike tended to elicit much anxiety among teachers, no matter how they felt about its issues. These teachers, having been committed to democracy in the classroom and as a way of life, found themselves in a situation in which a union that represented only a minority had forced the majority to face a most difficult decision. The difficulty was compounded because the strike was announced by the union as the vehicle for achieving the goal of professional status, and the incongruity between the vehicle and the goal was troubling to many teachers. The data suggest that the older teachers were more committed to teaching as a profession in terms of the traditional criteria of a profession, whereas the younger teachers were more sensitized to such matters as salary and working conditions than to relatively abstract considerations of professionalization. Whether teachers represent a profession or not, as an either-or dimension, was thus a salient feature of teachers' responses to the strike.

The situation elicited much cognitive dissonance, or knowledge by the teacher that those with whom he interacted had incompatible expectations regarding his role behavior. It also evoked many role conflicts which do not fit into traditional theories of conflict resolution. Among the factors that do help to clarify some of the responses to the strike are the quantitative and qualitative changes in some teachers' motives or objectives, and the redefinition of their roles. Other mechanisms, like taking professional action, yielding to pressure groups, and compromising and withdrawing, which were used to explain role conflicts in a recent very thorough study (3) of school superintendents, were also applicable in the strike situation. Manipulation of pressure groups, which would ordinarily be a possible method of response to role conflict, did not seem to be relevant here.

The strike was a given which had to be faced by teachers, parents, and students. Once its date had been established, many of the typical intermediate responses to a conflict situation were no longer relevant (5). The strike made it very clear that the dimensions of the role of the teacher, whether seen by the teacher, student, or parent, are still relatively ambiguous. It is probable that a teachers' strike in a more closely knit community might lead to even more intense and exacerbated reactions. The success of the United Federation of Teachers in December, 1961, in being elected as the sole recognized bargaining agent for all New York City teachers may embolden labor unions and teachers in other communities to strike and to precipitate analogous situations.

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The rebel and the revolutionary: Sigmund Freud and John Dewey

IN AN AGE OF intensified anxiety, the tendency of the interpreters of significant intellectual thinkers is to weaken distinctions, deemphasize conflict, and find considerable grounds for rapprochement between competing ideologies. A good example of this kind of rapprochement is found in Morton Levitt's work, *Freud and Dewey on the Nature of Man*. Although Levitt concluded that "... similarities outweigh differences, and there is some feeling that the distinctions were the result of semantic confusion rather than ideological opposition" (*11*), considerable grounds exist which warrant the hypothesis that a reëxamination of the respective social and intellectual climates, personalities, and ideologies of Sigmund Freud and John Dewey may reveal far more significant differences than similarities.

Contrary to Levitt's idea that both men were "... products of the same basic social and intellectual climates" (*11*), Freud and Dewey were products of extremely different backgrounds. Any comparison of the Vermont New Englander and the Viennese Austrian impresses one with the differences rather than the similarities of their backgrounds. If it is difficult to discover similarities in the social antecedents of Dewey and Freud, it is even more difficult to find similarities in their respective "intellectual climates."

European Disillusion

At the turn of the century, the European intellectual was moving swiftly toward a vein of tragic disillusionment. Nihilism and an existential nothingness found favor as the Enlightenment image of science and progress came under attack. The human condition was increasingly viewed as tragic with little hope for the future. Paul Valery probably best expressed this sense of disillusionment when he said,

> We do not know what will be born, and we fear the future, not without reason. We hope vaguely, we dread precisely; our fears are infinitely more precise than our hopes; we confess that the charm of life is behind us, abundance is behind us, but doubt and disorder are in us and with us (*10*).

The sustaining Renaissance-Enlightenment image of a rational man, participating in human progress, was crumbling, even as philosophies of certainty like neoclassicism and neo-Thomism were asserted in the gathering storm of intellectual nihilism.

In contrast to the European sense of tragedy, the American intellectual at the turn of the century looked to the future with a high degree of optimism, unshaken in his humanitarian faith and its principal corollary, social meliorism. American culture was, in fact, giving birth to a neo-Enlightenment world-view. In the vanguard of this movement, attempting to pick up the shattered ideology of pre-Darwinian Enlightenment thinkers and to reconstruct their ideas in an age of science (*2*) were such men as William James, John Dewey, George Herbert Mead, and Lester Frank Ward.

These neo-Enlightenment thinkers saw man not as innately aggressive or sinful, but as pliable and subject to the learning process. Culture was viewed not as a vehicle to suppress innate drives, but as a vehicle through which to express and fulfill human needs. The "machine" was regarded not as a Frankenstein's monster of mass culture, but as a device through which men could more effectively achieve human goals. Organization was looked upon not as inevitably in conflict with the individual, but as an extension of each individual's power to achieve desirable goals—provided, however, that social organization was not taken as immutable and could be controlled and remodeled by individuals.[1] Clearly, the future was not perceived with fear and dread. These men espoused a world-view based primarily on a functional conception of human nature which at least implicitly held out the hope of a better future.

Reaction in America

By mid-twentieth century, the somber side of the American mind became more pronounced. Melville could be understood and faithfully revered, but Emerson's optimism was characteristically described as adolescent. Ralph Barton Perry, echoing the temper of the American intellectual in the closing days of World War II, observed that,

> Men will never again be as innocently hopeful as they were at the close of the nineteenth century. They will never again expect Utopia to be the instant and spontaneous effect of a cult of reason, or of the advancement of the physical sciences, or of the adoption of constitutions. They are unlikely again to put their trust in a providential entity called progress (*14*).

In the early decades of the century, the optimistic American could accept John Dewey's ideas almost as self-evident truths; but increasingly, as the climate of pessimism shaped American thought, Dewey was viewed by many as superficial, naive, and, at best, unsophisticated. We are now in what Merle Curti referred to in 1953 as "a period of reaction against the promises of the functional conception of human nature that resulted from the application of scientific methods to the study of behavior" (*2*). It is significant that Freud's ideas tend to complement the work of the literati in an age of pessimism, whereas Dewey's ideas tend to lose their significance in such an age. This phenomenon is understandable when we consider that Dewey's ideas were germinated in a seedbed of optimism, and Freud's in ground over which blew the chill winds of tragedy.

Freud and Dewey were not only born and nurtured in extremely different social and intellectual climates; there were also great differences in their personalities. Freud was psychologically a rebel, revolting against the Victorian ethic and the authoritarian social structure that frustrated his ambition. He was also psychologically an authoritarian rebel. Here Erich Fromm's insight into Freud's personality, as well as his distinction between the rebel and the revolutionary, is significant.

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[1] John Dewey has been charged with laying the groundwork for the "organization man." This charge cannot be substantiated. Dewey, as early as 1939, was well aware of the danger of group conformity and warned against the trend (*3*).

> Freud was a *rebel* and not a *revolutionary*. By rebel I refer to a person who fights existing authorities, but who himself wants to be an authority (to whom others submit), and who does not dissolve his dependence on and respect for authority per se. His rebelliousness is directed mainly against those authorities who do not acknowledge him, and he is friendly to those authorities who are of his own choosing, especially when he becomes one of them . . . a *revolutionary* in the psychological sense is someone who overcomes his ambivalence toward authority and from the wish to dominate others. He achieves true independence and he overcomes the yearning for domination of others. In this psychological sense, Freud was a *rebel*, and not a *revolutionary* (7).

Rebel vs. Revolutionary

The authoritarian personality of Freud cannot be concealed. Even the most devoted disciple of Freud, Ernest Jones, had difficulty in accounting for the dramatic personal trauma which Freud's colleagues repeatedly experienced as they challenged his ideas (*9*). The pattern was repetitious. Breuer, Stekel, Fliess, Jung, Adler, Rank, Ferenczi, and Reich all found that an intellectual disagreement with the Master of Psychoanalysis meant a violent personal conflict as well. The "passionless science" of psychoanalysis was fraught with passion.

Freud had a "mission." He had founded a movement based on the truths of psychoanalysis as he developed them. The mission was to spread the gospel to foreign parts and carry the word to the uninitiated. To carry out this mission he needed, psychologically as well as practically, a coterie of dedicated apostles who would not question the word, but would expand on it, confirm it, and communicate it to a hostile world. Freud intended to cast a shadow on the minds of posterity, a shadow which was to be sharp, clear, and distinct. In this endeavor, his best friends were his worst enemies. In spite of all his attempts to hold them in check, his shadow, after his death, became increasingly diffused (*13*). The important point here is not that he was unsuccessful, but that he tried. Freud was the true rebel, revolting against authority in order to become the authority.

The revolutionary, as Fromm pointed out, is one "who overcomes his ambivalence toward authority because he frees himself from attachment to authority and from the wish to dominate others." If Freud was the rebel, John Dewey in this context was the revolutionary. Dewey was free from both the psychological and practical need to dominate others. The practical need was not evident because Dewey had not undertaken to construct *the* system of philosophy or *the* system of psychology, but expected even his closest followers to deviate and change as their personal and cultural milieus changed. Dewey personified his statement in *Democracy and Education* that, "The educative process is a continuous process of growth, having as its aim at every stage an added capacity of growth." The assumption that Dewey expected to be reconstructed is implicit in virtually all of his written work as well as in his relationship with his disciples.[2]

Unlike Freud, who bitterly attacked his dissenting disciples, Dewey did not attack Rugg, Kilpatrick, or Bode personally or intellectually for failing to follow a Deweyan system of thought. Rather, he encouraged differences, some of which strayed a considerable distance from Dewey's own mark. The revolutionary nature of Dewey's personality as well as his ideas confounds the problem for the historian who attempts pragmatically to assess the influence of Dewey's ideas on American education. While Freud immediately chastised his apostates, Dewey seldom took unmbrage at digressions from his views. To the authoritarian mind, this appears as a sign of personal weakness; to the liberal mind, it is a sign of strength. To the liberal, the freedom to be wrong is as important as the freedom to be right. In any case, because Freud was the rebel and Dewey was the revolutionary, it is easier for the historian to distinguish between the thought of Freud and that of his disciples than it is to distinguish between Dewey's thought and that of his followers.[3]

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[2] It is significant to recognize that in Dewey's last published work on education, he complained that his own philosophy was being taught in teachers' colleges as "fixed subject matter of ready-made rules" (*4*).

The differences between Freud and Dewey run deeper than personality. Their ideological differences with respect to the nature of man and the nature of culture are such that any attempt at rapprochement is immediately frustrated.

Freudian Rationalism

At various times, Freud has been accused of contributing to the irrationality of the Western mind. This charge, it seems, must be directed at the users and implementers of Freud (especially in the arts) rather than at Freud himself. Freud's own quest to make the irrational rational is the ultimate in rationality. The ancient maxim of "Know thyself" and Freud's psychoanalytic theory are, indeed, one. In assuming that reason could dispel the darkness in the human soul and light the path toward mental health, Freud firmly placed his faith in rationality.

To Freud, the nature of man was neither good, as Rousseau had thought, nor bad, as most orthodox religions had held. Rather, it consisted of the primordial beast against which mankind has been struggling through the course of evolution. The evolution of the beast to man was recapitulated, in an abbreviated form, in the life of the child. The idea that ontogeny recapitulates phylogeny provided the conceptual framework through which Freud could read into the clinical situation both the real and the imagined history of the racial experience (*5*).

Life was a struggle for existence, and human life was a struggle to achieve rational supremacy over the beast which is a part of man's instinctual endowment, a part of man's primordial past—a past which, try as he might, man can not escape. He can not escape from the beast, for it is in him and with him:[4]

> The bit of truth behind all this—one so eagerly denied—is that men are not gentle, friendly creatures wishing for love, who simply defend themselves if they are attacked, but that a powerful measure of desire for aggression has to be reckoned as part of their instinctual endowment. . . . This aggressive cruelty usually lies in wait for some provocation, or else it steps into the service of some other purpose, the aim

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[3] Here one is reminded of Cremin's question with respect to an assessment of Dewey's influence in *The Transformation of the School* (*1*): "What was Dewey's responsibility within the movement for pointedly clarifying his differences with Kilpatrick? And in the absence of such clarification—Dewey was a gentleman—is Dewey responsible for whatever distortions of his thought Kilpatrick might have introduced?" Since Dewey never did clarify his differences with Kilpatrick, it is clear that an historical assessment of Dewey is complicated by his "revolutionary" character.

[4] William Golding, in his thought-provoking and insightful *Lord of the Flies*, combined Freud's concept of man and society with his own observations of man in the totalitarian century and produced a novel of rather classic proportions which, in the face of paradox, ends in Freudian stoic resignation.

> of which might as well have been achieved by milder measures. In circumstances that favor it, when those forces in the mind which ordinarily inhibit it cease to operate, it also manifests itself spontaneously and reveals men as savage beasts to whom the thought of sparing their own kind is alien (*6*).

This concept of man was then logically extended in implication to society. Civilized society, Freud insisted, is always menaced with the problem of self-destruction. Man's basic hostility to man is so great, his passions of instinct so strong, that culture must call up every possible reinforcement in order to check these destructive instincts. The sanctions for censorship, repression, authoritarian leadership, etc., are not found in the existential world of common work or the necessity for group action, but are embedded in the very nature of man (*6*). To Freud, the non-repressive culture is a psychological impossibility. The release of the pleasure principle at the expense of the complete destruction of the reality principle could only end in non-culture. If culture does survive, it does so only because a newer more effective and more restraining reality principle evolves from the conflict. In this context, every social revolution which begins in the name of freedom ends in the name of restraint (*12*).

While the instinctual endowment of the beast is a basic part of man's nature, the ego or man's reason remains as a latent potential of the human organism. At the center of this nature lies an inescapable paradox and a dualism which the ancients referred to as reason and passion—for Freud, ego and id—which he later developed in a broader cultural perspective as the life and death instincts. Freud saw this paradoxical nature of man working itself out over the broad scope of cultural evolution. Cultural evolution was then conceived as a struggle between Eros and Death, between the instinct for life and the instinct for destruction (*6*).

Dualist Tragedy

Freud's Manichaean dualism ends not in an optimistic monism, but rather in a classical view of tragedy, leaving nothing more than stoic resignation in the face of paradox (*8*). One can notice in Freud's twentieth-century work a growing trend toward pessimism, and as a corollary, "The importance of the environment on man's mind was increasingly denied" (*13*). Possibly the circumstances of the post-war world tended to make explicit those ideas of man and culture which were implicit in Freud's work from the very start. George Mosse suggests that:

> Perhaps the difficulty was that a man who believed in what he called "passionless science" was suddenly thrown into the chaos of the post-war world. Yet Freud never lost his belief in reason, but its scope had diminished to that of explaining the process of the mind. Even here reason faltered, for from this explanation Freud derived, in the end, his pessimism, his view of man as the aggressor, his despair of ever firmly knowing reality. At this point psychoanalysis came close to being a metaphysic (*13*).

Whatever the cause for this shift of emphasis, the dualism which brought him to the tragedy of paradox in the 1930s is implicit in his concept of man at an earlier age. The id was always a threat necessitating repression. At best, Freud maintained a stoic view of man and culture.

Persistently Freud transposed into a cultural world-view the powerful insights into human nature that he derived from literature, anthropology, medicine, biology, history, his own personal psychology, and his own social milieu. In a true Platonic sense, he saw the individual writ large in culture, and the culture in turn reinforced his perception of the individual. Psychoanalysis was culturally derived. Freud's bourgeois background, then, is not only significant in explaining how he came to perceive man and culture, but it also provided the source of some of the basic ideas which he built into the very superstructure of psychoanalytic theory itself.

While Freud, like Gide and others, attacked the bourgeois Victorian ethic, Freud himself, being of the bourgeois, reflected its values in his own personal life and built into his thinking a central concept of nineteenth-century economics, the static concept of wealth which assumes that one must rob from the rich to help the poor (7). He adapted this view of wealth, applied it to sex energy, and concluded that sex energy, upon which all culture is based, is also limited. Man exists in the inevitable and perpetual state of sacrificing some measure of his sexual life for his cultural life (*6*). Civilization, then, originates not as a conscious extension of an individual's power, thereby achieving for each individual a greater freedom, but by the repression of sexual energy so that sublimation occurs. "We have seen that culture obeys the laws of psychological economic necessity in making the restrictions, for it obtains a great part of the mental energy it needs by subtracting it from sexuality" (*6*). Civilization may progress as knowledge gives control over the environment, but man must pay a price for this control. For Freud, civilized man must always exchange some part of his chance of happiness for a measure of security implicit in control (*6*).

Stoic and Romantic

Once again one is brought to the face of paradox and once again to stoic resignation: "Perhaps we shall also accustom ourselves to the idea that there are certain difficulties inherent in the very nature of culture which will not yield to any efforts at reform" (*6*). The bourgeois economic necessity which permeated Freud's youth became a "psychological economic necessity" which shaped his perceptions of man's nature as well as man's culture. Erich Fromm pointed out the early development of these ideas in the thought of the youthful Freud:

> It is remarkable how the ideas expressed in Freud's later theories were already alive in him as a young man, when he was not yet concerned with problems of history and sublimation. In a letter to his fiancée he describes a train of thought that had occurred to him during the performance of *Carmen*. "The mob," he writes, "give vent to their impulses (*sich ausleben*), and we deprive ourselves. We do so in order to maintain our integrity. We economize with our health, our capacity for enjoyment, our forces; we save up for something, not knowing ourselves for what. And this habit of constant suppression of natural instincts gives us the character of refinement. . . . Why don't we make a friend of everyone? Because the loss of him or any misfortune happening to him would bitterly affect us. Thus our striving is more concerned with avoiding pain than with creating enjoyment" (7).

If Freud had these ideas in 1883 as a young man, it can also be seen that he was still developing them in 1930 as an old man. "It is impossible," he said then, "to ignore the extent to which civilization is built on renunciation of instinctual gratification" (*6*), and "The command (of love thy neighbor as thyself) is impossible to fulfill; such an enormous inflation of love can only lower its value and not remedy the evil" (*6*).

The stoic, rather harsh view of human nature and culture which Freud held throughout his life was not acceptable to the romantic humanitarians who, from Rousseau to A. S. Neill, proclaimed the nature of man as "good." When the romantic humanitarians came in contact with Freud and psycholanalysis, as in the case of Margaret Naumberg in her Walden School and A. S. Neill at Summerhill, they both maintained their original concept of man as basically "good" and proceeded to use, wherever possible, psychoanalytic techniques not to repress for the sake of sublimation, but to free a child from the guilt and anxiety of a repressive culture. Thus it is that Freud's influence on education has come to mean, to many educators and laymen, a highly permissive form of socialization. Others, such as Neubauer, Anna Freud, Pearson, and Robinson, point toward the more restrictive nature of psychoanalysis as applied to education. One may speculate that if the current trend toward a rediscovery of sin persists in American culture, one may expect the original stoic Freudian views of man and culture to have a more significant and profound effect on American school practice.

The solid conservative or a neo-humanist like Irving Babbitt, in the first quarter of the twentieth century, rejected Freud, failed to see his classical views of man, and mistook him for a Rousseauian humanitarian. The modern conservative, however, does not make the same mistake as his intellectual ancestors. Gerald Sykes, in *The Hidden Remnant*, finds in Freud "a clear ideological explanation of man for a new class of uprooted intellectuals who must apprehend ideologically or not at all" (*18*), and conservative Peter Viereck can say of Sykes's work, "one of the very best books I have ever read on the spiritual and human cost of technical progress."

If the romantic humanitarians were selective in what they found serviceable in Freud, the pragmatic humanitarians proved even more selective by literally staying clear of Freud altogether. For example, John Dewey never answered the question of the implication of Freud's conception of human nature and culture for educational theory and practice.[5]

The Deweyan Temper

Much has been made of the fact that Darwin published his *Origin of the Species* in 1859, the year of Dewey's birth. Seldom, however, is it ever mentioned that Sigmund Freud also was born in the same decade. While Dewey busily reconstructed the Enlightenment image of man along Darwinian lines, he failed to take into serious account a different but equally significant movement of his own time—the psychoanalytic movement. Whatever explanation is given for this phenomenon, it remains a striking fact that John Dewey, usually sensitive to the major trends of his age, missed or avoided one of the most original and influential of his contemporaries.[6] One would suspect that if Dewey had seriously considered Freud's concept of human nature and view of culture, he would have found few grounds for agreement.

Throughout Dewey's life and work runs an inescapable optimistic view of human nature. Man's nature and culture were essentially pliable, not fixed by instinct or conditioned by his primordial past. "In a definite sense, then, a human society is always starting afresh. It is always in process of renewing, and it endures only because of renewal" (*16*). What Dewey usually attributed to human nature was a learned behavior in a cultural setting at a definite time.

If men appeared at various times in history to be destructive (pursuing the death instinct), or at other points in history to be constructive (pursuing the life instinct), it was not because these tendencies existed as instinctual endowments; they were simply learned forms of behavior or products of a culture.

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[5] The present historical evidence seems to indicate this. Perhaps when the personal papers of John Dewey are released to the historian, the answer to this question may change.

[6] It is interesting to note that William James, usually less empirical and considerably more introspective, could turn to Freud and say, ". . . the future of psychology belongs to your work" (*9*).

> The use of the words *instinct* and *impulse* . . . as practical equivalents is intentional, even though it may grieve critical readers. The word *instinct* taken alone is still too laden with the older notion that an instinct is always definitely organized and adapted, which for the most part is just what it is not in human beings. The word *impulse* suggests something primitive, yet loose, undirected, initial. Man can progress as beasts cannot precisely because he has so many "instincts" that they cut across one another, so that most serviceable actions must be learned (*16*).

Dewey's rejection of the recapitulation theory and the instinct psychology of his former mentor, G. Stanley Hall, was not academic but functional (*17*).

Revolutionary Flexibility

Instinct psychology not only tended to fix human nature, but also opened the door for psychologists to attribute cause to what primarily was effect, an effect of social learning. Dewey focused his attack directly on this aspect of the psychoanalytic movement:

> The treatment of sex by psychoanalysis is most instructive, for it flagrantly exhibits both the consequences of artificial simplification and the transformation of social results into psychic causes. Writers, usually male, hold forth on the psychology of women as if they were dealing with a Platonic universal entity, although they habitually treat men as individuals, varying with structure and environment. They treat phenomena which are peculiarly symptoms of the civilization of the West at the present time as if they were the necessary effects of fixed native impulses of human nature (*16*).

To Dewey, the child was born with "undifferentiated" impulses to act. These impulses, to be sure, are "sublimated" to create culture (*16*), but one's psychic energy, channeled from impulse to habit to social intelligence, does not carry with it the primordial chains of the past; neither does social intelligence depend on the diversion of a limited supply of sexual energy, but is dynamic in the sense that intelligence generates greater intelligence.

One does not find in Dewey a view of culture which leads to the paradox of the inevitable loss of "happiness to gain security." Dewey's view of culture is positive rather than negative. This view does not eliminate evil but places responsibility for it on the present culture and on the men who compose it rather than on immutable characteristics of their nature or their genetic past.

Dewey's concept of culture was firmly planted in the liberal social tradition, a tradition which regards culture from its origin as an extension of freedom and which consistently finds the sanction for authority in the immediate experience, the common work, tasks, or problems which had to be resolved. The focus of attention on the present and the persistent refusal to allow man's primordial past to interfere with man's quest for fulfillment is, it seems, characteristic of this *Weltanschauung*. Within this context, the social ideas of the neo-Freudian revisionist school can be seen to merge with Dewey's social ideas at that critical point where the revisionist rejects Freud's own emphasis on the instinctual race experience and directs his attention to the current life situation (*12*).

Thus, both Dewey and Freud were rationalists in the sense that both placed considerable faith in the ability of man to reason, to understand, and then to act on the basis of that understanding; but they occupied two very different levels of the modern split-level house of intellect. The origin of one level is to be found in the rationality of classical antiquity; the other is to be found in the rationality of the eighteenth century Enlightenment.

Dewey's view of man, nature, and culture, his view of instinct as impulses, his war on dualism (*15*), and his continual emphasis on social meliorism all lead one to suspect that if Dewey had seriously attended to the implications of Freud's ideas of man and culture for educational theory and practice, he would either have had to reject much of Freud's basic ideology or modify his own ideas. Clearly, these profound thinkers represent two conflicting traditions of the West, the one optimistic humanitarianism, the other stoic humanism.

The necessity of fleeing Vienna in the last years of his life must have confirmed in the Rebel's mind his 1930 suspicions as to the beastly "instinctual endowment" of man's nature. On the other hand, the Revolutionary, in the year of Freud's death, could say,

> An American democracy can serve the world only as it demonstrates in the conduct of its own life the efficacy of plural, partial, and experimental methods in securing and maintaining an ever-increasing release of the powers of human nature, in service of a freedom which is cooperative and a cooperation which is voluntary (*3*).

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Book Reviews

Hirst, Wilma E. *Know Your School Psychologist.* New York: Grune & Stratton, 1963. Pp. x + 240. $6.75.

School psychology certainly is a rapidly *growing* field. Those of us who are loyal to it hope it is a rapidly *maturing* field. To advance its maturity, we need clearer concepts of what we are doing and of what we should be doing. In this hope, your reviewer picked up *Know Your School Psychologist* by Wilma E. Hirst. It certainly added zest to find she is presently working as a school psychologist in Cheyenne, Wyoming, whose school psychology practices are virgin country to this provincial psychologist.

Having put the book down and thought and weighed, my opinion is that this book has some merits, yes, but this is *not* the school psychologist I want to know. I must also add, with apologies to Dr. Hirst, that this is not the school psychologist I want other people to know nor that I want to train.

Let me list the book's assets first, because the field is relatively barren of texts on school psychology, and each morsel must be picked over. It contains some readable anecdotes and case histories. The writing is pleasant, almost conversational, and often down to earth. One senses that Dr. Hirst has had a practical background in the classroom, a hunch corroborated by the APA Directory, which tells us she received her EdD from Colorado State College, has taught and been a remedial reading instructor, has been involved with special education, and is now a coordinator of guidance. Her experience shows, for she is at her best when talking about real children in real classroom situations.

Now, what put me off about the book was, first, its disorganization. I could not understand for whom she was writing. She says it was intended to describe the work of the school psychologist to those with a nontechnical background, such as ". . . superintendents, boards of education, parents, teachers, other school personnel, and mental health professionals" (p. lx). This range of audiences should defeat almost any book, and it does this one. We read from A, children made happy through the undescribed intervention of the school psychologist, to Z, a somewhat technical description of the dynamics of school phobia. Then the actual sequence of the book put me off, for I could not see the logic of it. Why, for example, would a chapter on other exceptional children concentrate on these four groups: the emotionally maladjusted, children who steal, the cerebral palsied, and the homebound? Two rabbits and two horses do not make a good stew, not even in old Cheyenne.

The second mark against this book is its use of research evidence. This reviewer admits a strong bias against the bland phrase, "research indicates," and becomes apoplectic at "research refutes this statement," both of which are found on p. 139 and elsewhere. The phases themselves are not the point. It is the uncritical attitude toward research data that such phases represent. There is precious little research, especially bearing on school psychology, which allows so sweeping a conclusion. A major example of the crime of uncritical use of research is Dr. Hirst's perpetuation of the myth of the Wickman study's conclusions (p. 36), which implied that teachers are poor judges of mental health. There is very little evidence here that the author has really read the available research literature, and less that it has been cautiously assimilated.

The third point, which put me off completely, is that nowhere in all this happy account of how school psychologists save children's psyches is the reader permitted to find out just what it is that a school psychologist does or how he does it. We read that after a psychological interview, or after a talk, the child's problems were successfully analyzed and usually set right, provided the parents were cooperative. People with a nontechnical background, such as this book is intended for, are due an accounting of what we do, what our skills are and are not. Reading this book gave me the uneasy sense that we had acquired one more brush stroke on the picture of the school psychologist as a mysterious expert who does not share information with teachers and parents. We shall pay a dear price for this "experter-than-thou" attitude.

The last criticism may seem petty, but a slim inelegant book of 227 pages of text does not warrant a price of $6.75.

The verdict, then, is that this won't do. It is a chatty, disorganized account of what one school psychologist says she accomplishes, using almost no research data, and never discussing the skills or the concerns of the profession in a serious manner. School psychology needs many things, many of them quickly, but it does not need this kind of testimonial to the triumphs of school psychologists over mental illness and ignorance. The problems are much too serious and too difficult for this type of glib reporting.

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Lichter, S. O., Rapien, Elsie B., Seibert, Frances M., & Sklansky, M. A. *The Drop-outs.* New York: Free Press, 1962. Pp. xiii + 302. $5.50.

This book reports on the efforts of the authors, as members of the staff of a social agency, to treat and assist 105 youths referred to the agency by Chicago public high schools. "The schools were asked to send us any youngster who, in their opinion, was a possible drop-out and whom they hated to see leave school." The authors wanted to learn whether, "intensive individualized treatment could effect a better emotional, social, and educational adjustment for drop-out or potential drop-out students."

Of the 105 youths (all white because only 5 Negroes were referred), only 70 showed up for more than four treatment interviews. This "Treatment Group" received conscientiously applied psychotherapy and environmental assistance for about one year. Of the 70, 40 dropped out of school more or less permanently. The authors conclude, "We believe that, untreated, a great majority of the students would have left school. In this light, the nearly 50 per cent success becomes more significant." As no true comparison group was studied, this belief is offered in lieu of evidence. One can as readily believe that a 57 per cent failure is a poor showing as that there is no par for the course.

This book is not really a study of high school drop-outs, but an inadequately designed analysis of efforts to treat a small but heterogeneous group of troubled adolescents. Several meaningful if unintegrated portions of the book give it value for special audiences, however. In a discursive way, three chapters clarify and amplify psychoanalytic theories of character disorder and adolescent development and relate these ideas effectively to school problems. Educational researchers will enjoy the competent appendix of 28 cross-tabulations, some of which hold clues to hypotheses. Classroom teachers could gain from the carefully developed individual case histories, and administrators and counselors could perhaps make use of the didactic recommendations made in the last chapter about the identification and treatment of school-related emotional problems.

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Skard, S. *The American Myth and the European Mind.* Philadelphia: Univer. Pennsylvania Press, 1961. Pp. 112. $4.50.

"*Amerika, du hast es besser,*" wrote Goethe in 1831, contrasting the virgin soil of America with the Old Continent, its decaying castles, and the continuous strife caused by "useless remembering." It is this "image of America as a *tabula rasa*" that aroused the enthusiasm of European immigrants of earlier generations. As time went on, the American myth changed greatly and gained in emphasis and subtlety.

Professor Skard has tried to find out when, where, and to what extent the myth was checked "through the critical, scholarly, skeptical mind" of "American Studies in Europe." The two tendencies—the formation of myth, on the one hand, and the rational research on the other—"often were mixed or they worked at cross-purposes, but the distinction is real enough." So it is, but can *one* be truly understood without the other? In the history of ideas and their impact on reality, there have been other instances of studies generated by ideal images, such as the renaissance of classical studies, the "Biblicism" of protestant politics and the birth of Biblical scholarship, and the enthusiasm of the *Philosophes* of the Enlightenment for the English social and political system. A full appraisal of the "American Spirit in Europe" would constantly have to bear in mind the continuous cross-influences of image and exact scholarship in such situations. Even "the adoption of American methods and procedures in technology, medicine, economics, sociology . . . and many other branches of learning," which Skard has more or less rigorously excluded from his study because "they do not aim at the understanding of American Civilization as such," would have to form part of a comprehensive picture.

However, it is not primarily an interest in the interrelationship between image and learned scrutiny which has prompted Skard to undertake his investigation, but the wish to trace the endeavors to dispel stereotyped images through rational study. When, in 1946, the Parliament of Norway established a chair of "Literature, especially American," at the University of Oslo, its first holder set out to collect data on the present organization of American studies in Europe. As Professor Skard himself describes the outcome, what was begun "in a spirit of protest against European negligence . . . ended in a feeling of respect for the efforts of almost 200 years."

In a series of well balanced and clearly structured papers, he shows how the growing impact of the USA on Europe, on the one hand, and the rising tide of liberalism on the other generated a constantly widening enterprise of study and teaching of Americana throughout Europe and in the Near East. The interconnection between the growth of American studies and the waves of liberal thought and politics in Europe are convincingly demonstrated throughout the volume.

Professor Skard's specific approach, however, fruitful and suggestive as it has proved to be, should be carefully checked against a broad canvas of political and social history. An example may serve to illustrate the point. Following a description of growing interest in the study of American civilization in Bismarck's Germany, the author writes: "It seems that . . . Germany had now finally made up its mind to base its development on the common heritage of the Democratic West." Although later on he mentions "the negative aspects . . . beneath the surface in Germany," he speaks of the country as "a Parliamentary Democracy" (in 1900!). That interest in Americana can well be prompted by sentiments far from liberal is indicated by the surge of American studies from 1938 to 1940 in Hitler's schools and universities.

It is in the field of education where the many-fibered system of connections between empirical history, ideology, and scholarship can most clearly be demonstrated, And here one may wish for an extension, in scope and method, of this stimulating essay. Although Skard frequently points to the effects of educational reform—often an outcome of re-appraisal after a national setback—on the program of American studies in schools and universities, he omits much. Thus, one expects in vain some mention of the studies of American education by Kerschensteiner, F. W. Foerster, and others concerned with social education in Germany. Even today, the public debate on educational reform in that country centers to a remarkable extent around a critical evaluation of American educational methods and research practices.

It would, of course, be less than fair to criticise Skard for having restricted his investigation to the narrower issue of American studies in a limited sense, but one hopes that the Oslo school will be tempted one day to undertake the more comprehensive study of "The American Spirit in Europe" in its manifold ramifications.

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Buss, A. H. *The Psychology of Aggression.* New York: Wiley, 1961. Pp. x + 307. $7.95.

The theme of this book is research! Definition, methodology, and measurement are the crux of a rigorously stated, behaviorally-oriented analysis of aggression which covers the historical and conceptual range from the frustration-aggression dictum to projective scaling of hostile fantasy. It would be only a slight distortion to re-label this volume *A Handbook of Aggression Research.* The chapters on dynamic theories and on psychopathology pay a small tribute toward the cookbook for practitioners which the title readily leads one to expect, but the serious professional will be disappointed by a simplified, dull, and uncritical treatment not at all characteristic of the remainder of the work.

While the author's S-R bias is explicit, this does not hinder him from excising the chaff from the varied and often presumed classical grains contributed by the Yale group on the subject. His definitional distinctions among *aggression* as an instrumental act, *anger* as an effective reaction, and *hostility* as an attitudinal set make the frustration-aggression issues painfully clear. Dollard *et al.* emphasize *angry aggression,* for which the reinforcement is typically the victim's pain, thus neglecting the entire class of *instrumentally aggressive* responses for which the reinforcement (food, success, etc.) may be independent of the victim's response *per se.* This distinction thus opens the way to classes of important instigators to aggression not comfortably embraced within even a modernized "F-A" model.

This kind of refreshing clarity and incisiveness characterizes most of Buss's discourse as he ranges through conflict, displacement, the physiology of anger, psychosomatics, prejudice, and finally, child development. All of this is good, and it is thorough. To top it off, there are pleasant surprises in the peerless critiques of research on essential hypertension and the scapegoat theory of prejudice.

When one follows the lengthy arguments closely, the occasional conclusions tendered seem sensible and convincing. Unfortunately, such meaty contributions are all too often sandwiched-in among pages of data and critique. Thus, while Buss does a masterful job of teasing succinct conclusions out of masses of confusing data, the final results of his labors are frequently hard to find, and a certain economy for the reader is lost.

Unfortunately, the author makes little notable effort to deduce generalizations about the psychology of aggression from the varied areas of investigation which he scrutinizes. This lack of an integrative thread running through the book is perhaps its greatest weakness, a fault which is an understandable reflection of the field itself but one that such a book should have done more to remedy. It would have seemed more exciting, for Buss and for us, had he made some cogent comparisons among chapters which now stand as a collection of relatively independent reviews.

The nature of this volume precludes detailed commentary on the multitudes of methodological and conceptual positions taken by the author; but comment *is* appropriate with regard to his basic orientation and the comprehensiveness of the coverage attained.

Since the coverage is systematic and extensive in the areas of laboratory research and measurement, the experimentalist is likely to be fully rewarded; but for those who are excited more by dynamics, psychopathology, or social-cultural concerns, this treatise seems neither inclusive nor stimulating.

It is difficult to be very convinced by the author's argument that behavioral events are the "stuff" of a science of aggression and that reference to such "private" events as the aggressor's intent is awkward and unnecessary. To take issue here invites the intrusion of a large and often fruitless debate over the relative value of phenomenological and behavioral systems. Prudence (and the editor) restricts us to comment only upon a few instances; nevertheless, this should suffice in leading credence to our dissent. It is easy to assert that it is most fruitful to examine the relationship between the reinforcement history of an aggressive response and the immediate situation eliciting it; but how does one define the situation and what is the reinforcement? One needn't venture outside the covers of *The Psychology of Aggression* to discover that the antecedent conditions of numerous experiments are defined in terms of subjects' verbal reports. A noxious or aversive stimulus is not noxious or aversive to a human being unless he *perceives* it that way! Experiential definitions of instigators to aggression and of reinforcements are common and essential. The verbal reports of private events required in validating the effectiveness of experimental manipulations and the attention to objectifying such reports evident in the chapters on projective methods and personality inventories attest further to this view.

The sum and substance: There are faults, but from a research viewpoint, there is no better reference on the topic of aggression.

Allen E. Bergin
Teachers College, Columbia University

Nearing, S. *Freedom: Promise and Menace.* Harborside, Maine: Social Science Institute, 1961. Pp. 202. $3.50.

There is no such thing as absolute freedom. Freedom is not a good in itself. Freedom is not an end. With many statements of this kind, Scott Nearing lines up with the great philosophers. Plato and Aristotle and Cicero and Augustine and Aquinas and many others down through the ages would each have nodded his head in approval. If freedom cannot in itself be an end, then what is the end? For like the ancient philosophers, Nearing does not envisage an infinite series of ends. It must obviously be something desired for itself and not sought for anything beyond it. The ancient philosophers would have said that it was happiness or well-being or the possession of all possible goods, mainly goods of character. It becomes the function of the political order, therefore, to promote the virtues that lead to happiness and thus to establish a common good.

For Mr. Nearing, the end is a perfectly ordered community: "... a virtually leaderless community whose individual practices rest back upon a degree of self-discipline that substitutes the individual acceptance of group decisions for the tyrannies, the rule of oligarchies, and the superimposed authority so generally exercised by the modern state." In addition, Nearing optimistically says, "Explorations and surveys of the earth's crust, coupled with scientific discoveries and technical inventions, have given power-age men a range of potential control over nature and society that promises relief from the heaviest labor, presages a day in the very near future when, within reason, man will command and nature will obey, when social organization and administration will establish new levels of abundant, creative living for mankind."

How much of this millennial thinking we read of in the late nineteenth and early twentieth centuries! Liberals and Marxists alike indulged in it. Man would be completely changed by a new environment. The Christian heaven would be replaced by the secular paradise on earth. All the evils of avarice, greed, selfishness, corruption, and tyranny characteristic of man and society in the capitalist order would disappear. And in two-thirds of his book, Mr. Nearing pictures all these evils very vividly. Marxist society will know none of them. We should not criticize such hopes in a spirit of levity; they form part of man's noblest dreams since the dawn of civilization. Yet of Marx, whom Nearing follows, it has been said that if he had spent less time in the British Museum and more in the collectives of which he wrote, he would have known men better—even as well as his contemporary, Charles Dickens, knew them.

The author tells us that freedom is not enough in the new power age. There is the important transition to socialism. He tells us how important this transition is in societies that are illiterate and undeveloped, and how necessary indoctrination and coercion are. One misses in the account, however, the cruelties and bloodletting of such transitions we know about. It would appear that the end is legitimate and desirable, and all means to that end, the socialist society, are acceptable.

Indeed, freedom is not an end. Freedom must also know restraint, but obliteration of freedom does not guarantee the heavenly Marxist city that Mr. Nearing hopes for.

JEROME G. KERWIN
University of Chicago

Pike, D. *Australia: A Quiet Continent.* New York: Cambridge Univer. Press, 1962. Pp. 232. $3.95.

Professor Pike of the University of Tasmania subtitles his history of Australia "A Quiet Continent," and then at the end, he inserts a paragraph likening the Australian story to a "fun fair," not a notably quiet event. Pike is, as a matter of fact, not entirely sure just how to interpret the Australian experience. In his last chapter, he cursorily reviews various schemes of interpretation and calls for new attempts to supply more satisfactory schemes. There can be no criticism of that, but by mixing his own images, he certainly isn't contributing to clarification. And especially is his confusion curious in that he confesses an interest in history that inspires a nation's citizens. Fun fairs do not inspire, however they may amuse the easily amused. And Australian history is not fun. It is rather a bit on the grim and dusty side.

Pike attempts to compress eighteen decades of pre-history and seventeen of British occupation, the former more drastically than the latter, in a little over two hundred small pages. This involves division of the material into "periods," in the time of British occupation mostly covering twenty years of time. Within the periods, the method is to treat the reader to a barrage of facts, unsystematically selected, undifferentiated as to their importance to any visible thesis, not always in chronological order, sometimes injected with their roots in the narrative quite unapparent. The effect is of a rather inefficient impressionism, chosen, it seems, to jazz up an otherwise dull story. To relieve the suspected monotony, resort is had to generalizations, some of which are brilliant insights and some of which fail to come off because the facts they subsume don't square with them. The critical reader alternates between "Good" and "Whoa!"

It must be emphatically said that while Professor Pike is not good at stating the "meaning" of his facts, or too diligent about verifying them (admittedly a tedious business in the present state of Australian history writing), he is clearly interested in the right things; he treats the right topics, and he brings up many of the right questions. But as he is uncertain about interpretation, so his economics is vague, and his politics, whether he is treating domestic or imperial affairs, is insecure and uncertain. And since politics and economics are of the essence of the Australian story, how can one without a certain firmness of mind about them in their successive expressions write satisfying history?

For what audience did Professor Pike imagine himself writing his book? I suspect he never put the question to himself. He certainly didn't have Americans in mind, hardly Australians, and perhaps only vaguely English readers. To the question of what "level" of audience he aimed his text at an answer is even harder to find. I cannot imagine any reader of any nationality finishing the book with a feeling that he now understands Australia. The absence of a controlling authorial narrative line—even so simple and obvious a line as the building of a nation from scratch in an unusually empty land, the line of "development," a key preoccupation of the successive Australian generations—prevents the book's making a distinct impression. The ordinary reader, running rapidly through it, will end up with a lot of facts in mind, perhaps, ignoring their accuracy or the accuracy of their apprehension in the rather confused context, but with few clear ideas about the history of Australia. Perhaps Professor Pike's fun-fair image was suggested by his own text.

Selecting only from Australian histories I know to have been published in the U. S. in recent years, I much prefer either A. G. L. Shaw's *The Story of Australia* (New York: Roy, 1956) or Gordon Greenwood (Ed.) *Australia: A Social and Political History* (New York: Praeger, 1955); the former for the reader in a hurry, the latter for the serious student. Professor Pike's book could then be read as a kind of dessert after the meat and potatoes.

C. Hartley Grattan
New York City

Garre, W. J. *Basic Anxiety*. New York: Philosoph. Lib., 1962. Pp. 123. $5.00.

Anxiety is everybody's business. We have come to believe that anxiety lies at the root of all evil, the base of all interpersonal difficulty. The teacher, counselor, lawyer, physician, dentist, or psychologist working with a person of any age and in any setting is anxious about the other's anxiety. And if there is any self-awareness the professional is anxious also about his own anxiety.

The author of this book makes anxiety the badge of humanness. No one escapes it. It is inexorable, unavoidable. For Garre, basic anxiety is the feeling of being threatened, the fear of death. It is the result of the amount of rejection and resentment to which the child has been exposed. The amount of basic anxiety equals the degree of rejection by the significant parent or parental surrogate, the mothering one. To be sure, the father, and more especially the relationship between the parents must have some effect on the developing human being. But basically, Garre puts the blame on Mom.

Garre's position is anti-intellectual, anti-Freudian, and anti-hypnosis, but pro-physiology, pro-genetic, and pro-existential. His theoretic stand is a mishmash drawn from a variety of sources: conditioning, holism, analytic psychology, and animal behavior. His method is "serious and honest introspection."

His approach to the more severe emotional disturbances is magical. Garre gives the central syndromes an existence apart from the persons to whom they are descriptively applied. He says, "the neurosis can come to a self-realization without having to resort to an unacceptable acting-out form of behavior and attitude, whereas the psychosis would act out in a form which is totally unacceptable."

His discussion of the rationale and nature of psychotherapy is confusing. His view of what kinds of therapies are "good for" what kinds of patients under what kinds of conditions is not in keeping with usual clinical experience. Good treatment, in my opinion, whether it is education, non-directive counseling, psychoanalysis, electro-convulsive, or any other intervention is tailor-made. It derives from the unique necessities of two unique individuals with unique life histories involved in an ongoing interpersonal relationship which is creating its own unique history. Certainly similarities exist. But generalizations about psychotherapy need to be approached with a great deal of flexibility.

The psychotherapist offers an opportunity for the patient to develop trust in another and in himself. In this connection, I want to note that Garre does not mention group psychotherapy, which is for many persons a treatment of choice. It must be mentioned, too, that the chapters on alcoholism and juvenile delinquency are superficial and unrewarding.

All in all, this book reflects a pessimistic, pseudoscientific attitude toward human suffering. It recommends a sort of philosophic

(?), passive acceptance of a trembling, painful lot for man.

Emanuel K. Schwartz
Postgraduate Center for Psychotherapy
New York, N.Y.

Patton, T. M. *Business Survival in the Sixties.* New York: Harper, 1961. Pp. x + 61. $2.95.

Mr. Patton, President of Republic Steel, gives an outstanding statement of the role of business for the next decade, if business is to survive and prosper in a free enterprise system. He presents his views under three topics: (1) Problems for Management at Home, (2) The Problems Abroad, and (3) Business Strategy for a Prosperous Decade.

In looking at Problems for Management at Home, Mr. Patton starts with the assertion that the economic and political ingredients essential to long term business growth in the American tradition include freedom of choice, private property, profit incentives, competition, and democratic government. Doubt is expressed as to our understanding of this value system and as to our real adherence to it. Wherever our society is going, other than drifting, we must have a good grasp of the political and economic values involved. He points to a number of interrelated key facts: Our population is growing rapidly, but population and industry must grow together. Population growth also has its impact in the public sector of the economy, and businessmen must do their share to promote sound fiscal policy and provide for legislation which will enable business to behave responsibly.

Economic growth, he warns, can be impaired by the threat of inflation, unrealistic depreciation policies, and high and rising levels of taxation. Business needs to maintain profitability if it is to grow and carry its share. These concerns interact with the problems of competition and the need for motivating and guiding people in line with American social and economic philosophy.

In discussing "The Problems Abroad," Mr. Patton calls attention to the need for more sources for raw materials—for iron ore, copper, bauxite, etc. This kind of program frequently points toward underdeveloped nations and the need to help them help themselves. In the necessary search for raw materials and potential markets, we often find ourselves, naturally enough, in competition with our allies.

Mr. Patton offers nine steps to improve our competitive position: Improve our customers' service, improve quality and raise efficiency, intensify research effort, reduce the gap between employment costs and productivity, overhaul our outmoded depreciation policy, be more aggressive in marketing and sales, work for a strong anti-inflation policy, remove present trade restrictions on American goods, and make a critical appraisal of our foreign aid program.

Mr. Patton's final chapter challenges management and managers to carry through responsibility not only as managers within a company, but to push aggressively the American tradition locally, nationally, and internationally.

The reviewer finds this one of the best expositions of what in dynamic terms is meant by the free enterprise system in a growing and competitive world.

Harold A. Edgerton
Richardson, Bellows, Henry & Co.
New York, N.Y.

Daniels, R. V. *The Nature of Communism.* New York: Random House, 1962. Pp. xvi + 398. $6.00.

In his book, *The Nature of Communism,* Professor Daniels has managed to perform the rare feat of saying nothing really new, yet saying it so well and so trenchantly that the reader is constantly impressed with the new insight presented to him. Designed for those with some knowledge of European and Soviet history, it should prove of some value in a field characterized by an already enormous literature. Drawn from the standard works of Marx and the Marxists, communists and anti-communists, historians, sociologists, and economists, here in one volume is an excellent synthesis of the communist movement from many different vantage points: as a product of the Russian past, as a world-wide conspiracy, as a totalitarian dictatorship, as a form of Russian imperialism and as a fanatic faith.

Other writers, says Daniels in his Introduction, have studied communism from one or another of these approaches to the exclusion of other perspectives. Here, however, all these concepts are analyzed for the light they cast on communism, defined as a twentieth-century totalitarian movement, peculiar to the non-Western world and profoundly influenced by the experience of Tsarist Russia, which has come to power and is today controlled by the Soviet Union. Thus, the emphasis is on what the Soviet Union and the communist movement *do*, rather than on either justifying or excoriating the actions of the Soviet Union in Marxist terms. This approach admirably sidesteps the danger of falling into neo-scholastic exercises of the "what-Marx-really-meant" type.

Both Marxist and non-Marxist historians have had to grapple with the fact that the first Marxist revolution took place in relatively backward and agrarian Russia, rather than in the technically more advanced countries of Europe. Professor Daniels boldly faces up to this seeming contradiction to the prophesies of Marx and maintains that the Bolshevik revolution was neither atypical nor the ineluctable result of historical necessity, but was the natural prototype of revolution in backward countries. There are several reasons for this, which Daniels ascribes to certain Russian historical developments in the nineteenth century which also had their parallels in other countries of the non-Western World.

The astounding success of communism in Russia, coupled with the Leninist theory of imperialism, has proved subsequently to be of great fascination for the Asian nationalist. On the one hand, he sees the example of a disciplined elite, the Communist Party, leading a previously backward country toward industrialization, and, on the other, a convenient theory which places all the blame for his country's troubles on the imperialist-capitalist West. At the same time, the authoritarianism of communism does not appear as repellent to him as it does in the more liberal capitalist countries of Europe. So at the very time that the communist parties in the West are evolving (or degenerating) into non-revolutionary reformist parties, a powerful engine for revolt grows in the East.

The result is Maoism. A nationalist elite, organized into a Leninist party, leads a depressed peasantry against a colonial power (the French in Indo-China) or against a regime either corrupt or closely identified with a capitalist power (the Kuomintang or the Philippine government under Roxas or Quirino). As Daniels points out, with the exception of the East European "People's Democracies," "Peasant-based guerrilla warfare has been the path for every communist victory or near-victory." Such a path had led to triumphs in China and North Vietnam; it came within an ace of success in Malaya and the Philippines. Once in power, the new regime will undertake, usually at great sacrifice of energy and lives, an ambitious program of industrialization.

Seen in this light, communism has several aspects. It is a philosophy which has its roots in the Western world, but is hostile to many western values. It is not so much a movement which *replaces* capitalism as one which offers an *alternative* to capitalism. This combination has proved irresistable in the non-Western world. An interesting question, which Daniels does not explore, is the implication of his thesis on the ultimate effect of American aid to the developing countries, particularly if the United States wishes these new lands to be "democratic" or even simply anti-Soviet.

Professor Daniels is on solid ground when exploring the Russian roots of Communism and the development of the Party and the Soviet Union since the revolution. His touch seems less sure when he deals with other areas. In particular, when discussing revolutionary movements in general, he seems too eager to try to fit his data into the pattern set forth in Brinton's *Anatomy of Revolution*, with its insistence on a "moderate phase," a "terror" and a "Thermidorian reaction." By the same token, a too literal acceptance of Karl Wittfogel's ideas on "Oriental despotism" lead him astray, particularly when these ideas are applied to Japan.

More broadly, if fascism is a "catchall, promising all things to all men," so is communism. Few better universal slogans than "Peace, Bread, and Land" have been coined, and the moderate promises of a slow transition to socialism in Mao's "New Democracy" (1940) and "People's Democratic Dictatorship" (1949) were aimed at all Chinese who were not hopelessly compromised by their support of either the Japanese or the Kuomintang.

Aside from these few criticisms, Professor Daniels has achieved a remarkable synthesis in his discussion of communism. It should prove of immense value to those who wish a tough-minded, accurate, and stimulating approach to the "nature of communism."

JOHN E. LANE
Long Island University

Roe, W. H. *School Business Management.* New York: McGraw-Hill, 1961. Pp. ix + 303. $7.95.

School Business Management is a much needed contribution to the field of school business administration.

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For a beginning course devoted solely to business management, this text will meet the primary needs of most situations and will be accepted as a significant point of departure for professional study.

DEAN E. TRIGGS
Ventura Public Schools, California

Chandler, R. E. & Schwartz, K. *A New History of Spanish Literature.* Baton Rouge: Louisiana State Univer. Press, 1961. Pp. xiii + 696. $10.00.

The novel feature of this history of Spanish literature is its organization according to *genres* rather than chronology. The divisions cover epic and narrative poetry, drama, prose fiction, lyric poetry, nonfiction prose. This is not only the order of presentation, but it also reflects the order of importance shown in length and detail of treatment. Within each *genre*, the organization is generally chronological. It is subdivided into independent sections which range from about ten lines to several pages in length. Accordingly, the book is easy to use, but the sense of continuity inherent in the generic arrangement is lost by this extensive fragmentation.

Within its sections, the book is straightforward, factual, and objective, giving basic information about periods, literary movements, and authors and their works, including a number of summaries of individual works. The whole is prefaced by a summary of Spanish history, culture, and literary schools. Appended are lists of "firsts" in Spanish literature, "commonplaces" (definitions of a number of terms), a chronological outline of Spanish history, and a bibliography. The book is attractively set up, although the inner margin is somewhat tight for comfortable reading.

The category of epic and narrative poetry is the least satisfactory in its arrangement. The placing of artistic narrative poetry between the discussions of the popular epic and the ballad is jarring because it breaks the continuity between them. The treatment of the *romancero* is very brief (three pages in comparison to the fifteen-page chapter in Northup's much shorter book). That the authors' interests lie in the modern periods is discernible in the increased length and detail of individual sections in nineteenth and twentieth century drama, prose fiction, and lyric poetry. Whereas they are selective as to authors and their works in the older periods, they are progressively more non-discriminating in the twentieth century, including many minor figures. For example, some fifteen seventeenth-century poets are discussed, but over fifty are included from the period 1888 to the present. Section titles are at times misleading—witness "Modernism," under which heading Antonio Machado and Unamuno are to be found. The category of nonfictional prose is a mixture of various *genres*, including works on the fringe of literature and certain unconventional pieces, such as Quevedo *Sueños* or Gracián's *El criticón*, which many Hispanists would hesitate to classify as nonfiction. There has been an attempt to incorporate the results of recent scholarship, though it often falls a bit short.

The stated intention of the authors was to supply a basic tool for Spanish majors and minors in American universities. The book will serve this purpose well in several respects. It is well organized, and all information is readily accessible, readable, and amply implemented with cross references. It is more up to date than any other current history of Spanish literature written in English. However, the book turns out to be a compilation of small units of information which are not synthesized into a coherent whole, and there is great disproportion among the various parts. The presentation is objective, but it is also uncritical. It is not for those seeking critical evaluations of individual works or comparative values.

RUTH H. WEBBER
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VOLUME 64 NO. 8 MAY 1963

HOWARD MUMFORD JONES
Harvard University

History and the contemporary

MY SUBJECT IS THE relation of history and the contemporary, and I believe it bears not only upon the problem of culture in the general sense, but in a particular way upon the problem of national education. I begin by noting the curious inconsistency between the national attitude towards history and the national inability to understand the meaning of history.

To the superficial observer, no country is more conscious of history than these United States. This consciousness begins, so to speak, with the pious preservation of the Declaration of Independence and the Constitution under scientifically conditioned glass in the nation's capital. The federal government, the state governments, and many municipal, town, and village governments likewise preserve historical structures, costumes, furniture, pictures, and so on with deliberate care. Historical museums are common, whether they are, like Williamsburg, Old Sturbridge, and Virginia City, outdoor relics or historical collections more conventionally housed, though equally valuable, like the Museum of the City of New York. Virtually every state requires those enrolled in school or college to be taught history, usually American history, and sometimes, as in Texas, the history of the state; and though much of this instruction is repetitious, and some of it resembles the history demanded by an unreconstructed rebel who yearned for an impartial account of the Civil War from the Confederate point of view, history is so widely studied that historical textbooks are a major branch of the textbook industry. I will not say they are a major branch of American literature.

Moreover, the nation views with pride the publication in innumerable volumes of the papers of such founding fathers as

Jefferson, Franklin, Hamilton, Madison, and the Adamses. Among learned societies, the American Antiquarian Society, founded in 1812, enjoys a respectable antiquity in our terms; most of the 31 organizations making up the American Council of Learned Societies operate within historical contexts, and the special distinction of the American Historical Association is that it was chartered by the Congress of the United States. No commonwealth but has its historical organization, and several have two or three. They all publish quarterlies or annual reports. There are innumerable local societies; the village of Peacham, Vermont, for example, has its own historical club, housed in its own building. In addition, there are other organizations for the pursuit of historical lore, from an association for the history of ideas to the New England Historical and Genealogical Society, and from the Daughters of the American Revolution to the Old Settlers Association of Montana. We do not have a Westminster Abbey, but what other nation has a Baseball Hall of Fame?

Mystique of Mission

These examples of historical consciousness—I do not say they are equally impartial or scholarly—spring from a mystique: our sense of historical mission. From the assertion that God sifted a whole nation to found Massachusetts Bay to contemporary assumptions about the American way of life, this mystique persists; nor does the fact that communist countries, particularly Russia, have a similar sense of mission disturb us. Perhaps our most extraordinary triumph has been the imposition by the Old Americans upon millions of immigrants and their children of a standard pattern of historic myth, so that stories about Jamestown and the landing of the Pilgrims, Washington and the cherry tree, and Honest Abe the Railsplitter are a common core of legend to Yankees, Italians, Slavs, Jews, Orientals, and all the other racial groups that make up our cultural pluralism. Our good fortune is the greater when we consider the cultural tensions in other countries arising from the failure to achieve a common historical mythos.

Our achievement has, inevitably, advantages and defects. The great advantage I have hinted—the power for unification arising from our historical mythos, especially in moments of crisis. Even the governor of Mississippi, who passionately denounced the use of federal troops to put James Meredith in college, when the Cuban crisis was upon us assured the President of the United States that Mississippi stood behind him. We have not split our continental nation into regions hostile and suspicious of each other. We do not, like Great Britain, acclaim Robert Bruce at one end of the island and Oliver Cromwell at the other. We do not, like Canada, have to be perpetually tactful about two cultures. Even in the North, Robert E. Lee is a great man; and the open display of the Confederate flag, which in a like case in another nation might be the signal for an uprising, is with us viewed as a pleasant anachronhism, usually harmless. It yields, even in Mississippi, to the national anthem, and both North and South sing "The Star-Spangled Banner" or at least have it sung for them by an operatic soprano.

If all this be a boon, the defect of our conscious historicism is that, especially amid the siege-psychology of the cold war, it makes for uncritical conservatism, an almost Byzantine rigidity of values. The flagrant abuse of the word "un-American" unfortunately testifies to the truth of Dr. Johnson's assertion that patriotism is the last refuge of a scoundrel. Some organizations dedicated to patriotism define historical values as values satisfactory to the organization dedicated to patriotism, and seek by pressure to impose their interpretation upon library and classroom, student and writer. Scholarship vainly points out that the United States at its founding and for many decades thereafter was a radical nation in a world of monarchies, a country viewed with distrust by right-thinking Europeans, and that the republic was once a hotbed of social experiments, of which Brook Farm is the best known and the Mormon Church, with its powerful economic organization, the most durable. We have in this country no party of the left; and we have by well meant legislation so cabined, cribbed, and confined critical interpretation in textbooks that they have, in the words of a deceased colleague, the air, if not of conspiracy, then of collusion.

Clash with the Modern

But our emotional commitment to a righteous historical mission (was not the present age to turn into the American century?) clashes with another potent force so opposite to history that one wonders how the same culture can contain them both. This second power is the power of the contemporary. In other nations, of course, the hucksters of fashion through advertising persuade hundreds of thousands that not to be in vogue is to hang like rusty mail in monumental mockery. By mysterious processes difficult to assess, somebody somewhere somehow decides that sleeves must be full, not narrow—the waistline up, not down —the fashionable fall color rajah red, not the outmoded California carmine of 1962. We talk seriously about built-in obsolescence. We put tailfins on our automobiles one season and remove them the next. We create the most admirable phonographs, electric typewriters, tape recorders, and intercom systems, only to replace them next year by newer, more efficient, and shinier models. We demand the latest books, the newest magazines, the five-star finals, and replace one hit tune by another.

Our scientific achievement is immense, our technology one of the wonders of all time; but science and technology, business and industry, with all their blessings of health, comfort, efficiency, leisure, and happiness, also engender a contempt for the past. The past was all very well in its simple way, but we are well beyond it. Never was life so complex, frustration so universal, human affairs so tragic. The Greeks, the Romans, the Middle Ages, the Renaissance did not know how to think or to suffer. Newton yields to Einstein, Euclid to Gauss, Lobachevski, and Riemann; the cosmology of Humboldt to Gödel's theorem, Tennyson to T. S. Eliot, the notion of architecture as permanence to the notion of architecture as evanescence, *The Mill on the Floss* to Henry Miller. When knowledge thus fearfully expands and changes, when science undergoes these dizzying transformations, when taste revolves like a kaleidoscope, one is tempted to say with Faust,

> The ages of the past, my friend,
> Are to us as a book with seven seals.

If Spengler declared in *The Decline of the West* that the Faustian type is the epitome of modern man, he had in mind, I think, our impatience with tradition, our thirst for the novel and the contemporary, our impatience with yesterday and our eagerness for tomorrow. Do we not solemnly unveil the automobiles of 1963 in the autumn of 1962?

Education in Flux

Our obsession with the present tense has profoundly affected education in the

United States. The secondary schools and the colleges have experienced during the period of our existence as a nation at least three great educational changes. In their first phase, characteristic of American education from its beginnings to the Civil War, education appealed to two great absolutes—the Bible, which was patently the basis of a Christian nation, and the shining examples of Greece and Rome in their republican eras, which were manifestly models and guides to the young republic of the West. We were taught by Montesquieu, John Adams, James Wilson, and Thomas Jefferson, and competitors for a prize offered by the American Philosophical Society at the end of the eighteenth century for essays demonstrating that the characteristic of a successful republic is virtue, that an instinctual *amor patriae* motivated the best of Plutarch's men, and that education was to remind us of heroic virtue. Washington was depicted as the Cincinnatus of the West; John Adams, visited by the Marquis de Chastellux, was portrayed in the role of a Roman senator at Braintree, Massachusetts, and Jefferson at Monticello came out as a Virginian Horace, living philosophically on an American Sabine farm. Analysis of a long line of school readers, culminating in the famous McGuffey series, will reveal that fable, poem, and anecdote center upon the belief in Christianity and the belief in civic virtue. An amusing evidence of this classical absolutism can be found by scanning any American map, dotted with names like Troy, Sparta, Athens, Syracuse, Rome, Utica, and Olympia, not to speak of such compounds and oddities as Philadelphia, Thermopolis, Eureka, Minneapolis, and Cincinnati. Bible names—Salem and Bethel are examples—are equally common.

In its beginning, the second great phase of our educational development overlapped the first. This second phase extended into the twentieth century and may be called the era of genetic or evolutionary explanation. The basis was historicism, an historicism that drew early nourishment from a providential reading of history. Providentialism was enriched by the acceptance of a romantic doctrine of historical nationalism from Europe and, by and by, through the rapid acceptance in all but fundamentalist areas of an evolutionary philosophy. On the one hand, ontogeny repeated phylogeny—so much so that in the early years of the Modern Language Association, one enthusiast argued that the study of English in the high school should begin with the Anglo-Saxon tongue. On the other hand, romantic nationalism and the evolutionary philosophy combined to trace representative institutions upward to the Teutoberg forest and the customs of the freedom-loving Germans, and downward to the adoption in progressive western states of such democratic measures as the initiative, the referendum, and the recall. History was not only past politics, but politics sprang from past history. To understand anything meant to discover how it came into being. Literature was taught as an evolving process, and a history of literature was assumed as a matter of course to be the proper introduction of the pupil to the subject. Language became a problem in historical development, and if evolution did not apply quite so distinctly to the fine arts and music, musicology and the fine arts developed a biographical method and studied the evolution of forms. If classical physics and standard chemistry retained the absolutism of their eighteenth-century origins, geology and biology came rapidly forward. Meanwhile, educational theory was strongly colored by the Hegelian developmentalism of W. T. Harris and his contemporaries.

Pluralism in Ferment

The third or contemporary phase in our educational development denies the premises of the first and second phases. One can see why this denial came to be. By 1910, the problem of the secondary schools, when they were absorbing thousands of the children of first-generation immigrants into institutions that were originally for middle-class Old American families, had radically altered from what it had been. The results were complex.

In the first place, the high school curriculum, which had been shaped by representatives of both college and high school working together, came to be shaped by the high schools and by representatives of the Schools of Education, eager to prepare pupils for social and industrial living that grew more and more complex even while the pupils were being prepared. In the second place, well intentioned child-labor laws kept in school fractions of the adolescent population apparently uneducable under the old system and even, in the opinion of some despairing teachers, uneducable under the new. In the third place, the steady increase of our urban population and the decrease in our rural population rendered obsolescent, or seemed to do so, such familiar classics as Whittier's "The Barefoot Boy," Longfellow's *Evangeline*, and Bryant's "Thanatopsis," and simultaneously transformed Jefferson's dream of a happy agrarian republic into a dream of a lost world. In the fourth place, vast shifts in the labor situation included the increased employment of thousands of young women in office and factory jobs and thrust upon both school and college demands for vocational training that swamped any central concept of culture and led to the state universities in particular to bestow at every commencement a variety of bachelors degrees, incomprehensible to Thomas Jefferson. In the fifth place, the educational theory of W. T. Harris came to be replaced by the educational philosophy of John Dewey, who, understandably concerned by the failure of the standard curriculum to meet social needs, taught that democracy should begin in the grades or earlier and involve social living; and though the followers of Dewey caricatured his doctrine in applying it, the movement he inaugurated turned attention from the historical to the contemporary.

Finally are to be noted the disturbing effects of two world wars, the great depression of the thirties, the Korean campaign, and the cold war upon one of the most complicated technological cultures in history. What good was Julius Caesar or a knowledge of French irregular verbs or comprehending the transcendental unity of apperception when the immediate problems before the young involved military service, technological unemployment, a drive towards science, and the grimness of the post-Sputnik universe? The one thing needful seemed to many to be appropriate social and vocational training in the present tense for present problems.

Scholarship in Present Tense

Preoccupation with the present tense has not been confined to the public schools. It colors the values and assumptions of much scholarship. Scientists must of necessity live in present time and, in view of the enormous annual increment in scientific knowledge, can scarcely be expected to devote much professional energy to the history of scientific thought. The great interests of economists, sociologists, social workers, and social psychologists are necessarily in the fantastic world we have invented; and though anthropologists have never been more active than now, popular spokesmen for that branch of knowledge—Margaret Mead is an example—enthusiastically join in evaluating present problems in terms of what they know. Departments of philosophy honorably teach the canonical philosophers from Plato downward, but young thinkers find great interest and colder comfort in logical positivism, existentialism, and other modern relativistic theories. In departments of literature, aside from a few unshakable classics like Shakespeare, emphasis is upon the nonrational and the metaphorical—upon Kafka and Dostoievski rather than upon Jane Austen and Turgeniev, who are too serene for our violent tastes. Even in history, one notes the relative decline in America of instruction in the history of the ancient world and of the middle ages, and the relative rise of courses devoted to more recent times and problems.

But perhaps the most singular instance of our passion for contemporaneity is found in the study of language, wherein a basic shift in emphasis has so altered both high school and college instruction as to draw a rebuke from James Bryant Conant. Having paid formal tribute to traditional grammar, structural linguists now assure teachers that spoken language is the language *par excellence* and that written English is by comparison a mere dialect. The resulting emphasis upon English "as she is spoke" is happily welcomed by persons who listen to radio, the movies, and television, including educational television, whereon, in my experience, speaking is almost invariably sloppy by any standard of beauty, force, propriety, or correctness.

Not immediately relevant but amusing as an instance of the kind of English we have been accustomed to hear and read is George Orwell's translation of a passage of Ecclesiastes. The original runs thus:

> I returned and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favor to men of skill, but time and chance happeneth to all.

Modern official English makes this read:

> Objective consideration of contemporary phenomena compels the conclusion that success or failure in competitive activities exhibits no tendency to be commensurate with innate capacity, but that a considerable element of the unpredictable must invariably be taken into account.

I venture to put this into the vernacular: "Buddy, it don't matter how cool you are, you can't always bet and win."

Parallel in another area is a remark by an administrative officer in a lesser Ohio college that, for mysterious reasons, insisted upon putting in a doctoral program. Asked how he could possibly administer such a program in the humanities in an institution with only a rudimentary library, he earnestly replied, "But you don't understand. The New Critics don't need a library. All they need is the text of a poem."

Permissiveness on the Run

Although we have been plagued with the doctrine that every adolescent must be socially adjusted to achieve success—a theory that would rule out Henry James, Chekov, Napoleon, John D. Rockefeller, William Blake, most mathematical geniuses, Joan of Arc, and St. Francis of Assisi, to go no further—we are, conceivably, past the worst of the permissive period. What common sense and tradition could not achieve, fear of the Russians has driven us to. The most notable change is probably in science and mathematics, fields in which sleazy instruction and obsolete texts have led scientists to institute reforms backed by government funds in the interest of national defense. This movement has, rather oddly, carried along with it some tightening of standards of instruction in the modern foreign languages. More recently, a committee of national importance has gone to work to establish direction and unity in the amorphous area of social studies.

Meanwhile the European *lycée* and the European *gymnasium*, comparatively unaffected by American practice, have clung to their traditional patterns of instruction in history, the languages, the classics, the arts, and the sciences. The young French student is aware of Pascal and Racine, the young German of Goethe, Schiller, and Kant, the young Italian of Dante and Manzoni, as the young American is not always made aware of Franklin, Jefferson, Webster, Lincoln, Emerson, and William James. It would be difficult to prove that the younger generation in Europe is less well "adjusted" to life than is the younger generation in the United States, and possible to argue that the stability of educational patterns on a continent torn apart not long ago by World War II, the sense of belonging to a stable tradition, may be a power that curbs and canalizes the restlessness of the young by reminding youth that the troubles of our proud and angry dust are from eternity, not from Hiroshima or Havana. I, too, am frightened by nuclear war, but a document rather more ancient than the reports of the Atomic Energy Commission has prepared me in some fashion to confront disaster:

> Wherefore is light given to him that is in misery, and life unto the bitter in soul— Who long for death but it cometh not; and dig for it more than for his treasures. . . . For the thing which I did fear is come upon me, And that which I was afraid of hath overtaken me.

The consolations of Job and the lamentations of Jeremiah at least remind us that the problem of social adjustment is somewhat older than the Declaration of Independence and the Constitution of the United States.

Technology and Culture

You have by now properly inferred that I believe our present over-emphasis upon contemporary values in our schools and colleges, an emphasis underlined by worry and deepened by demand for scientific training, requires some sort of correction, that the source of this correction lies in history, and that if we are to maintain a balanced national life, we must fuse the needs of technology and the needs of culture. I am the more persuaded of this truth for three further reasons.

The first arises not merely from the lack of any settled hostility towards the humanities among scientists, but also from a positive thirst for richer and better knowledge of these branches of learning. Doubtless there are scientists who regard humane learning, including history, as proper only to one's leisure time. Before we condemn this view, let us recall that for Schiller aesthetic activity was the highest expression of the instinct for play; and I read only recently an editorial in a scientific journal arguing that to the trained scientist the humanities offer no greater challenge than is offered by a novel. These vagaries are not, however, characteristic of thoughtful scientific men who, especially in the moral confusion created by the use of the atom bomb, deeply feel that humanity is more than the sum of its computing machines. Thus, the Massachusetts Institute of Technology carries a vigorous program in the humanities through its four undergraduate years, and it is not unique in doing so.

In the second place, the successful application of technological devices to business and industry has created an embarrassing amount of leisure time, so much, indeed, that national gatherings like the Corning Conference and books sponsored by the Russell Sage Foundation have devoted themselves to the difficult question of its use. One of the ironies of history is that whereas to the generation of William Morris, when the work day was usually ten hours long, leisure loomed afar on the horizon like an earthly paradise, today, when labor is talking about the thirty-hour week, the disposal of the other 138 hours has become a national problem. We cannot spend all our waking time staring at television, going to spectator sports, or speeding over the countryside shut up in metal containers moving at 70 miles an hour past the billboards. The hucksters would, of course, like to monopolize our vacant hours, but a civilization mainly conditioned by advertising arouses so little enthusiasm even among the advertisers that the novel of unhappiness on Madison Avenue has become a standard subspecies of American fiction.

Education's Task

The third reason rises out of our immense responsibility as guard and guide of the Western world, a position that alternately annoys and gratifies both our allies and our enemies. Our opponents, particularly Russia, have a special theory of history, certified by Karl Marx as the one true faith; our allies have each their own history, American ignorance of which gets us into continual hot water, and the so-called uncommitted nations, to our immense astonishment, develop interpretations of history that do not include the American century, at least in our terms. In a situation thus complex, it behooves us to move carefully, but it likewise appears that the apparent opposition between history and the contemporary weakens or disappears and that history is one of the most powerful forces in modern times. What, then, is to be done?

The task before education is not easy. In the first place, the problem is not solved by merely requiring more courses in history. To add to the present mandatory instruction more courses in, say, the history of Asia or of Latin America or of Africa would merely clutter up a curriculum already crowded. The problem is not quantitative.

In the second place, even in the conventional course, one is brought up short by the quality of the textbooks now in use. From the point of view of literature, there are, I suggest, three categories of style: good style, bad style, and textbooks. Few history books escape from the third category. I have read, or read in, a good many of them, and in my memory they fade with few exceptions into a common, an indistinguishable grey. Scientific textbooks should, of course, be well written; but provided they are clear, we make no other major demand upon most of them. But history is a part of literature; the great historians from Herodotus to Henry Adams have been distinguished stylists, and the classics in the field are products not merely of accurate research but of imaginative vision, of profound commitment to humanity, of a keen sense of the tragic and the comic, of concern for the religious, philosophical, or moral meaning of human development. Our textbooks turn their backs upon these qualities. One does not expect all the members of the American Historical Association to write like Gibbon, Macaulay, Michelet, or Carl Becker, but is it not true that most textbooks in history are written, not only by professors, but also by the three grey fears—the fear of the young, the fear of pressure groups, and the fear of the teacher? These phantoms preside in all the offices of all the textbook houses. The book must appeal to the young; the book must not offend the susceptibilities, moral or patriotic, of the John Birch Society or the DAR or the White Citizens Council or somebody else; the book must not be beyond the comprehension of the teacher. One wonders in comparison how *Hamlet*, the vocabulary of which is difficult, the meaning of which is obscure, and the themes of which include both incest and an incitement to political assassination, ever gets itself taught in school or college.

Permanence and Change

The national culture would certainly be improved by better textbooks, but what would benefit us even more is a wider diffusion, a wiser understanding of the historical point of view. Doubtless the uses of history are caught between two platitudes, each of them simplicistic: one, the doctrine that every age remakes the past in its own image; the other, the doctrine that the wisdom of our ancestors was greater than is ours. As Professor Fritz Stern of Columbia has shown in a fascinating anthology, *The Varieties of History*, modern theorists of the subject from Voltaire to Toynbee have tried to establish—between the extremes, as it were—some governing philosophy of the historical process. These efforts are important, but perhaps too complicated for general influence.

Nevertheless, whether under the doctrine that we are the heirs of all the ages in the foremost files of time, or under the doctrine that the United States is the last, best hope of man, we may ponder the importance to education of two simple, yet powerful, truths. One is that the intellectual and aesthetic fashions of no age endure forever so that there is no reason to suppose that the intellectual and aesthetic fashions now regnant in criticism and scholarship are any more absolute than those of the Romantic Movement, or of the Enlightenment, or of the Middle Ages. The second is that the republic was created and shaped during its formative decades by certain philosophic generalizations that held true in their own time, and that, despite irrational psychology, may yet hold in some sense today.

What do I mean by these comments? Regarding the first one, I suggest it takes no great amount of reading in journals of scholarship and organs of criticism to discover that present fashion tends to divide all artists, but particularly writers, whether in past or present time, into the sheep and the goats. The sheep on the whole think well of man; the goats, with rarer wisdom, interpret him as a tragic blunder. An example from American letters will illustrate the point.

At the opening of the present century, there was little doubt that Ralph Waldo Emerson was a leading American mind, and, unfortunately, very few persons paid any attention to a man named Herman Melville. At present, though it is not true that Emerson is in eclipse—his tough and resilient idealism can never be quite eclipsed—he is undoubtedly outshone by the more baleful star of the author of *Moby Dick* and *Billy Budd*, who had, it seems, a tragic sense that Emerson had not. I have no desire to debate the question whether Emerson or Melville is the greater writer, for I do not conceive of literary studies as involving the award of prizes to First Boy, Second Boy, and Third Boy, and I cheerfully grant it was shameful so long to neglect the powerful and irregular genius of Melville. But when we concentrate, as in our schools we tend to concentrate, upon the sense of evil in Melville—or, for that matter, in anybody else from Beowulf to Mr. Salinger—we not only forswear balance, but we give up history, which reminds us that there are other respectable ways of interpreting humanity. It is not only Sophocles who saw life steadily and saw it whole. The "Inferno" of Dante doubtless has its immediate, melodramatic appeal, but the *Divine Comedy* ends on a great C-major chord: *L'amore chi muove il sole e l'altre stelle*. It is not necessary to be a Catholic to understand that the human race is more than its frustrations. The same serene note appears in Goethe, who was no Christian, and in Marcus Aurelius, who was certainly a pagan. The primary duty of the humanist is not to follow fashion or to heap up historical lore, but is to consider fashion critically in the light of historical learning, and, achieving a responsible philosophy, to teach such wisdom as he can. I believe this duty falls equally upon those who teach in the public schools and those who teach in college and university.

Values in Conflict

As for the great philosophical generalizations that lie at the base of our constitutional system, we live in an era susceptible to the Jeffersonian emotions but incapable of accepting the philosophy of Jefferson's age. We are emotionally committed to something called liberty, to a belief in the dignity of the individual and to the right of oppressed peoples to be themselves, but we are bewildered when we attempt to justify our beliefs. We teach the triumph of rational inquiry in courses in physics and mathematics, and we teach a basic distrust of reason in much of our theology, our philosophy, and our art. It is apparently idle to point out that Sigmund Freud was a man of great historical culture whose thinking was strongly influenced by the Bible, by Goethe and by Darwin, and that, far from seeking to destroy the rational basis of culture, he was, he thought, enriching and fortifying the long Western tradition. The enormous vogue of non-rationalist theories of human nature is characteristic of literature in our time—in dramatic contrast to scientists confidently employing the tools of rationality and optimistically exploring outer space and distant planets while the arts proclaim the fatuousness of mankind and the possible extinction of the race. Does not this curious opposition of values in our educational and artistic outlook represent the worship of one of those idols of the theatre against which Bacon warned us long ago? "During periods of crisis," wrote Ortega y Gasset, "positions which are false or feigned are very common. Entire generations falsify themselves to themselves; that is to say, they wrap themselves up in artistic styles, in doctrines, in political movements which . . . fill the lack of genuine convictions." Surely, however, the historical meaning of democratic culture does not culminate in this wedding of opposites, this conjunction of a calculating machine and a psychoanalyst's couch!

The Greatest Need

I hold therefore that one of the overriding intellectual necessities in American education is the need for a richer, finer, more widely diffused and philosophical approach to democratic culture in historical terms. Even if this were not desirable in itself, it is forced upon us by our opponents, the Russians and the Chinese, who have a philosophy and a philosophic interpretation of the historical process. Merely to declare their philosophy wrongheaded and their history fallacious gets us nowhere, either at home with our own people, or with our friends and allies, or with the so-called uncommitted nations. As a young Russian exchange student said in my house recently: "I came here to study history. The professors spend a lot of time attacking Marxism, in which I believe, but they do not seem to know how to put any philosophy in its place."

I do not say that there must be an official philosophy of history unanimously agreed on. I say only that a thoughtful consideration of the historic process that has brought the United States into being and long sustained it is basic to education in this republic. I do not think that doctrine should be established by the Congress of the United States or by patriotic groups or by school boards or by the American Historical Association. I say only that we have too long neglected the truth latent in the great figure of speech with which Daniel Webster opened his "Second Reply to Hayne," when he said that after the mariner had been long tossed about by the storm, he will be wise if he takes a new observation of the stars to determine what his course has been and whither he is bound.

The Peace Corps, traveling exhibitions of art screened by the State Department, sending American theatrical companies around the world to produce *Porgy and Bess*, putting American music on the air, giving American news broadcasts over Radio Free Europe, the establishment of information centers in foreign capitals, the sending of Fulbright scholars and Fulbright lecturers to universities in foreign lands—these are very good things in their way; but they remain what they essentially are, instruments of propaganda—sometimes good, sometimes indifferent, sometimes, in their unexpected results, disastrous. They do not differ from the propaganda instruments of other nations. But a totality of statement, a totality of belief about the moral meaning of history and the relation of American culture to that interpretation—this is what I fail to find in our American educational patterns.

I repeat—and I cannot repeat too often—that I do not want either superpatriotism or superpropaganda. What I want is a refusal to interpret the story of man in terms of contemporary anxiety only, and a belief that during the 40 centuries that look down upon us from the Pyramids, in Napoleon's phrase, human life has struggled toward dignity and value. To master this kind of interpretation takes, I grant you, a maturity we have not achieved in our schools and in our universities. But if, in Archibald MacLeish's words, America was promises, our allies, our enemies, and our hesitant and neutral neighbors have some right to know and an inevitable interest in learning how the promissory notes were paid and in what coinage.

Toward Philosophy

That the United States shall understand itself in philosophical terms mediating between the eighteenth-century values into which it was born and a twentieth-century denial of many of these values— this is a demanding task. To ask that the Americans, or a significant fraction of them holding key positions in education, industry, and government, shall likewise try to comprehend the development and sensitivities of the rest of the world—this, indeed, looks like an impossible assignment. I admit the difficulty, but I insist upon the necessity of the burden, which scholarship has nobly begun to bear. To translate this knowledge as we gain it into some sort of viable philosophy is, along with our support of science, the great educational problem of our day. It can be done only through enlightened scholarship. I, for one, have grown weary of historical relativism cynically misread. I hold that the imperative task of scholarship is not, God knows, to be didactic and commonplace, but rather to lead young men and women, boys and girls, to understand that history is something they cannot escape and so to inform and infect other parts of their education with this knowledge that they come to understand that a responsible culture is more than vocationalism, social adjustment, getting your lessons, and a general sense of frustration. Macaulay's great picture of the New Zealander standing on the ruins of London bridge and contemplating the lost glories of the British empire has great fascination, but I should like to juxtapose against it a passage from a document we helped to frame in 1944 and 1945:

> Determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and
>
> To reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women, and of nations large and small, and
>
> To establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and
>
> To promote social progress and better standards of life in larger freedom, and for these ends
>
> To practice tolerance and live together in peace with one another as good neighbors, and
>
> To unite our strength to maintain international peace and security, and
>
> To secure, by the acceptance of principles and the institution of methods, that armed force shall not be used, save in the common interest, and
>
> To employ international machinery for the promotion of the economic and social advancement of all peoples,

the signatories "resolve to combine our efforts to accomplish these aims."

Such is the opening of the charter of the United Nations. The statement concerns the ultimate purpose of the historical process interpreted for humane and humanitarian ends. If this be not the purpose and meaning of history, why do we study it at all?

LEO ROSTEN
Look Magazine
New York City

The creative idea

THE HISTORY OF MAN'S politics is a shameful chronicle of violence, greed, hate, vanity, foolish ambitions and parochial fears. The history of man's beliefs is an absurd story of ignorance, credulity, superstition, infantile terror, and magical beguilements. The history of man's ideas is a story of incredible stupidity, relieved by the occasional, sparkling eruption of gifted or original minds.

It is impossible to spend 24 hours on this planet without encountering, in ordinary life, several hundred examples of folly, irrationality, lunacy, self-deception, buncombe, or idolatry. Common sense is certainly not very common. Reason is rare in human affairs. *Non sequiturs* seem to be dear to the human heart, and preference or wish-fulfillment seem to be the most powerful of human drives.

World in Our Image

I sometimes think that the central fact about our race—the one commanding generalization—is this: We see things as *we* are, and not as they are. All of our perceptions are partial, crippled recognitions of the realities around us. We see what we want to see and hear what we want to hear, and we are terrified by the need to restructure our intellectual universe. We feel threatened by truly new ideas. We see things as we are—like the lady at the cocktail party who said to her husband, "Dear, don't you think you had better stop drinking—your face is already beginning to get blurred."

Ancient artists used to draw eyelashes on the lower lids of horses. There are no eyelashes on the lower lids of horses, but the artists "saw" them there.

Leonardo da Vinci, as skillful, as direct, as gifted a human being as ever was put on earth, made mistakes in drawing the heart from cadavers because he had been reading Galen—and Galen was wrong.

Albrecht Durer, an impeccable draftsman, made certain errors in drawing the human eye because his vision, too, was skewed by the false stereotypes of his time.

The human race is so subject to seeing that which it has been taught to see, and not what is "there," that the role of the creative mind, the creative thinker, the creative observer is crucially important in human history. Notice I do not say "the intellectual": for many extremely creative people are not intellectuals. Many intellectuals are not too intelligent; and very few intellectuals are creative. The one thing that the intellectual must and can do is to preserve poise in the presence of new and threatening ideas.

The ideas of Newton, which baffled all but a handful of men in his time, are quite easily understood by high school students today. The ideas of Einstein, which you and I find so difficult to comprehend, will not be very difficult for the next generation. Such concepts as the curvature of space, or relativity, or indeterminism, or infinity itself, become less difficult as time passes, because those who learn them afresh do not have to break through the prison of what they already have been taught. They have escaped the crippling effects of education.

Everyday in the United States, in some home with a child of, say, six or seven, a parent is asked the question, "Why is two-and-two four?" And everyday the answer is given, "Now, Johnny, don't be silly. It just *is*." In fact, the question is a terribly interesting and rather elegant one, to which many answers can be given—not the least important of which is that two and two make four in *one* system of counting, but we might devise others in which this is not necessarily the answer.

Beyond Convention

Everyday in the United States, children are brought right up to a moment of great importance in the human experience, but are not told how exciting and fruitful this moment can be. This moment comes during drills about the multiplication table. "Johnny, how much is two and two?" "Four." "Mary, how much is two times three?" "Six." "Jack, two times *what* equals ten?" Jack says "Five," and the lesson proceeds; and the moment is passed. But the teacher or parent could have said, "At this moment you are standing before one of the great inventions of the human mind—the concept of *x*. 'Two times *what* equals ten?' can also be said this way, 'Two *x* equal ten. *X*, the unknown, can be taught at a very early age, not deferred until that frustrating, exasperating thing called algebra which is not mentioned until high school.

Over and over, it is our fallacy to teach a convention as if it is an irrevocable truth. As parents, as teachers, as citizens, we go on teaching one way of thinking as if it is *the* way of thinking. We all cling to the familiar, to the conventional, because we are uneasy in the presence of ambiguity. What lies beyond convention is precisely that wonderful ambiguity in which the artist or the theoretician finds himself most at home. It is in this area that creative men play their great and commanding role, for it is the creative mind that dares to confront the obvious, that breaks through the bonds of accumulated distortions in perception, that tries to free itself from the prison of the familiar. The original mind *dares*—whether in the arts, or science, or philosophy—dares to look freshly.

Take, for instance, something as simple as vision. Surely one would think there is nothing complicated about *seeing*. Yet it was not until the thirteenth century that Giotto broke through the Byzantine tradition of painting all figures full-length, seen directly head-on. He dared to paint *parts* of figures, half figures, figures cut off, or placed with their backs to the viewers—for the sake of something called composition.

It wasn't until the fifteenth century that it occurred to artists that you could look into, and not just at, a picture.

Rembrandt taught us that there is beauty in old people, in poor people, in apparently ugly faces.

Monet dared to paint what *he* saw, under varying conditions of light, and not what he was expected to see.

It wasn't until the end of the nineteenth century that artists had the nerve to do what children have always done—put color into shadows, paint metaphors, paint a green face because it is the face of envy, or a red face because it is the face of rage. Have we not chastised the freshness of children all these centuries by saying, "Now Johnny, that's perfectly silly! That isn't the way a face (or an apple, or a tree) really looks"!

It wasn't until the late nineteenth century that artists exploited the discovery that warm colors seem to move towards the eye, that cool colors seem to recede, that the illusion of depth, on a two-dimensional surface, can be achieved through color itself. It was left for Cézanne to paint pictures which look as though they are coming toward us.

It was Degas, learning from the Japanese, who stubbornly insisted on capturing the unposed, the transient moment, and taught us to recognize the surpassing grace of the ungraceful—women bathing, combing their hair, drying themselves.

It wasn't until Picasso and Braque that artists began to think of the possibility of revealing several, or all, sides of an object in an effort to show us a larger-than-front-focus view.

None of us can *see* any longer the way our ancestors did. We no longer can see as men saw before the modern artists. You can't see a bowl of fruit the way it was seen before Cézanne. You can't see a cathedral without having been altered by Monet. You can't see fish in an aquarium without having been influenced by Klee.

The amazing fact is that this process which we call seeing, which we take for granted, is taught to us. We see not what is there but what we have been taught to see is there. We see not what is real (a phantom, after all, is "real" enough to the person terrified by it), but what we have been conditioned to think of as being real. What we call reality is not much more than the perceptions we allow to pass through the filters of our conditioning. We all live, in part, within the conceptual prison of the past.

From Painting to Physics

Now if this is true in so simple a thing as seeing, think of how much more true it is where theory, complexity, abstractions are involved. Move from the field of painting to the field of physics.

The history of physics is that of a science that moved along clumsily, slowly, crudely, and through models, built by bright men in their minds to clarify the phenomena they were or are studying. These models were always patched up, reinforced, revised, *made* to work—until someone came along who had the courage to ask a simple question, a question which challenged, and in so doing sometimes destroyed, the prevailing model, to replace it with another.

For instance, for thousands of years, men saw, as you and I see, that the sun rises in the east, crosses the heavens, and sinks into the west. We see this. There is no doubt of this. The sun moves. We see it move. And some man, probably long, long before Copernicus, asked himself this wonderful question: "But what if I *were on the sun?* If I were on the sun, might it not look as though it is the *earth* that is moving? And if this is so, what a nice problem: Which, in fact, *is* moving?"

Not until Newton did someone say not, "Why does the apple fall?" (they knew about gravity in those days), but, "Why does it fall straight down, as if to the center of the earth, as the earth itself is moving?" Newton proceeded to ask a series of questions which could be answered in only one way—a way which seemed absolutely fantastic: that the planetary system can be understood if all the great bodies act as if their entire gravitational pull, their entire mass, were *concentrated in one hypothetical pinpoint* at the center. Newton proceeded to work out the rules by which to maintain this hypothesis.

It was Darwin who asked, among other things, "Where does the human race come from?" It was Reimann and Lobachevsky who said, "But *is* a straight line really the shortest distances between two points—for instance, on a curved surface?" It was Rutherford who asked, "Can it be that inside the atom, this tiny, tiny, supposedly irreducible substance of matter, is a universe with a center and whirling bodies which duplicate the structure of the universe itself?"

But let us pause. None of these men really asked these questions in the way I have asked them. I think that we can better understand some of the problems they solved if we put them in the form of the kinds of questions I have suggested. In the case of Rutherford, for instance, he discovered the nucleus of the atom in 1911—and didn't know it. He wrote a letter to Hahn in 1913 in which he talked about the mathematical way of measuring the surprisingly large angle at which particles bounced off a thin metal screen, or foil; he was absorbed in the relationship of these angles and distances to the imaginary center of the atom. It wasn't until Niels Bohr told him what he had discovered that Rutherford fully realized what was going on.

Or consider Einstein, who asked such questions as "But what do we mean by 'simultaneous'?" Are two things happening "simultaneously" if simply seen to be so? What of the position of the observer? What about observers in different positions—an event witnessed from the position of a man on a train moving *towards* the event as against a man on the ground who is not moving?

Freudian Queries

It wasn't until Sigmund Freud that men really asked, "*Why* do people make mistakes—in spelling, writing, talking? Can it be that there is a reason?" Or, "What do dreams mean?"—not what do they predict, what possible magic or prescience is in them, but what is this particular person, in this dream, trying to say to himself? Is there a particular, special language in dreams? Or, "Is it possible that man can love and hate the same object?" Or, "Can it be that someone *does not know that he knows something?*" Can one part of the self be cut off from the remainder; and can it become known—not through reason, analyzing, deliberate effort, but through the deliberate avoidance of reason in a process of random associations, a process of symbolic, foolish, irrelevant, uncensored and unstructured verbal productions? Can man ever *not* be relevant?

Some years ago, in a talk to a group of psychoanalysts, I commented on the fact, so striking to me, that it took so very long for the human race to come upon, much less incorporate, ideas of this kind, and I read the following passage to them, a passage which you will all easily recognize:

> Every man appears to have certain instincts, but in some persons they are subjected to the control of reason, and the better desires prevailing over them, they are either wholely suppressed or reduced in strength. I mean particularly those desires which are awake when the taming power of the personality is asleep, for it is in sleep that the wild beast in our nature stands up and walks about naked, and there is no conceivable folly or shame or crime, however unnatural, not excepting incest or parricide, of which such a nature may not be guilty. In all of us, even in good men, there is a latent wild beast which peers out in sleep.

I said to the psychoanalysts what I say now: Of course you recognize this as coming from Sigmund Freud's book, *The Interpretation of Dreams*. But, alas, it was not written by Freud at all. It was written in the year 320 BC—by Plato. Does it not seem remarkable to you that since all educated men in the past read few books (there were not so many books to read), surely thousands of them read Plato; yet thousands of years went by, and these words passed before how many eyes—but did not, to use a modern term, "register." History is full of similar examples.

As long ago as the twelfth century, bread mould was being used to cure inflamed abscesses. The Chinese used ephedrine five thousand years ago. The Hindus used snake-root for tranquillizers long, long before we had Miltown. And among some primitive tribes in Africa, it has long been customary, when moving from one place to another, to take along some dirt—dirt from the floor of the old shelter, which is placed inside the new one to serve as an antibiotic. You may protest that these Africans could know nothing of microörganisms, but think only that they are propitiating the gods. Quite so. And yet—was this propitiation, by any chance, linked to someone's observation that there was something about old dirt that protected against certain diseases, that gave the community protection against certain infections?

Resisting Imagination

Our educational system does not teach people very well how to think, how to handle new concepts, how to solve problems. This is so not only because the educational system is poor in imaginative techniques of pedogogy, but because even the wisest of us must make a very hard effort to revise the models with which we work—the only models we have. We like to think of the physicist and the scientist as being men who quickly respond to the facts, the evidence, the new, promising clues to the future. Nonsense! Copernicus's heliocentric model was strongly opposed not only by non-scientists, but by the greatest astronomer of his time, Tycho Brahe, who could not break with the tradition about the earth's lack of motion. He opposed Copernicus all his life.

Nineteenth-century scientists resisted the wave theory of light, enunciated by Thomas Young, because they were so completely wedded to the model of the corpuscular form of light.

Biologists resisted Pasteur's discovery that fermentation is not just a chemical process, and chemists resisted it as well. Scientists resisted Lister's germ theory of disease. They resisted Mendel's theory of genetic inheritance from 1865, when it was first announced, until the end of the century, because they just could not believe that individual, isolated characteristics were biologically transmitted.

The great Leibniz criticized Newton for failing to make "providential destiny" a part of his physical model.

And when Max Planck wrote his PhD thesis for the University of Munich in 1879 and put into it entirely new ideas about the second law of thermodynamics, he later remarked, "None of my professors at the University had any understanding of its contents. I found no interest, let alone approval, even among the very scientists who were closely related to the topic. Helmholtz probably did not even read my paper at all, and Kirchoff expressly disapproved."

When Ernest Rutherford published *Radioactive Substances and Their Radiation* in the year 1913, a book in which the structure of the atom (the idea that the atom has a nucleus with electrons spinning around it) was first spelled out, the book was reviewed in the excellent British journal *Nature* by a distinguished physicist of the time—and that review does not so much as touch upon the idea of atomic structure.

When Waterston suggested that gases have molecular aspects, his paper was rejected by the Royal Society; across that paper is still written, "This paper is nothing but nonsense." And when Poincaré, one of the great mathematicians of his day, examined Georg Cantor's contribution to mathematics, set theory, considered by mathematicians today as one of the great turning points in mathematical theory, he (Poincaré) said, "Later generations will regard this as a disease from which one has recovered."

The great Louis Agassiz remained one of the leading critics of Charles Darwin. When Robert Chambers in 1840 published a book called *Messages of Creation*, in which he suggested a developmental view of the human story, Herschel, Owen, Agassiz, Huxley, Lyle, Murchison, and others all spoke against it.

When Karl Pearson in 1900 sent papers to the Royal Society in which he used statistics to analyze a problem in biology, a resolution of that society requested that, in the future, papers on biology should not contain mathematics.

When Roentgen announced x-rays, Lord Kelvin passed it off as a hoax. Kelvin also resisted the idea of the electronic composition of the atom. He just could not accept the idea that the atom was not indivisible.

Ampère's theory that there are electrical properties in the atom which have magnetic manifestations, was ignored by men who could not break beyond Newtron's model (*1*).

Our Daily Crimes

Now, if you here tonight feel proud that we, our enlightened generation, no longer make these mistakes, let me point out to you some crimes in reason and reasoning that we commit daily. We teach children, at some point, "Facts speak for themselves." Well, this is nonsense. Facts do not speak at all. They are utterly meaningless unless and until they have been arranged, analyzed, interpreted. *Do* facts really "speak for themselves?" Consider the story of the first mate on a ship who was called into the cabin of the captain:

> "Swanson," said the captain, "I want you to see what I have just written in the ship's log."
>
> Swanson read, in the captain's handwriting, "Last night, First Mate Swanson was drunk." Swanson said, "Sir, it's true; I was drunk. But I wish you wouldn't put it in the log. It will ruin my record as a seaman. I have never had a black mark in 30 years on the sea."
>
> The captain said, "But you *were* drunk last night, weren't you?"
>
> "Well, sir, I was, because I got a cable —my wife sent me a cable that she had given birth to a boy. I was so thrilled and excited, I ordered a bottle of Scotch and celebrated with some of the men."
>
> The captain said, "I'm sorry, Swanson; *the truth cannot be tampered with*."
>
> The next morning, the captain got up and read the log, in Swanson's handwriting: "The captain was sober last night."

It was a fact. Did it "speak for itself?"

We say, "You can't argue with facts." But facts are one thing you have to argue with. Consider this episode. An artist was painting a nude. One morning, his model appeared and started to undress, but the painter said, "No, no. I have a headache. I don't feel like working. Let's just have some coffee." They were having coffee together, chatting, when footsteps were heard. The artist listened, then said to the model, "My wife. Quick, take off your clothes."

Do facts have a meaning, outside of their context?

We often explain the behavior of someone who has erred by saying it is the result of an unhappy childhood. Well, what childhood *isn't* unhappy? Childhood is a miserable experience quite often, for a good many people. But some of us manage to endure it and become responsible. It isn't quite enough to justify dereliction by pointing to "an unhappy childhood."

We say, in a piece of mythology that

has reigned over us for about 25 years, that children ought to "adjust to the group." Well, let's examine that. I was called in by a teacher, when my son was in nursery school, and given a fine report on him. "But your boy has one little problem. He doesn't do much to adjust to the group."

I said, "Well, who are in the group?"

This brought a startled expression to her face. She named four children.

I said, "Oh, I know those kids. They're terribly dumb, aren't they? Why don't *they* adjust to my son?"

There are some people who should not try to adjust. Perhaps they are not meant to. Perhaps they're meant to be alone—to dream or write poetry or imagine stories or study stars. They're meant to pay the price of loneliness. They need support from their adults, parents and teachers, in rejecting that concept that is so paramount in American life: Popularity. My children went through this stage, too, wanting to be loved by all, popular, with fine smiles and hearty manners and perfect teeth and no cavities. I said to them, "I'll tell you a sure way to be popular. Just ask people for advice. Don't *listen* to it; don't take it; just ask. You will be loved by one and all, credited with sound judgment and fine character."

In Anger and Honesty

We have heard, for how long, that it is wrong, wicked, cruel—to spank a child. Now I submit to you that the formulation of the problem is silly. I assume that as civilized people, we don't turn to husband or wife and say, "Dear, let's have some fun. Let's beat up the kids." But to ask, "Should you spank a child?" is absurd, for the real question is this: "If you are angry enough to *want* to spank a child, for whatever reason, *how do you handle that anger?*"

I submit it is cruel *not* to spank a child if and when you are angry enough. If you don't, think of the alternatives you have presented the child with. He thinks, "Oh, he is angry. If I were that mad, I would kick, I would bite, I would kill. But he doesn't. How much better he is than I. How evil I am; how good he is." I think that's a terrible thing to do to a child.

Or the child can say, "He's mad, very mad. Why doesn't he *hit* me? Ah, I know why—because he's afraid to. He's afraid that if he let go, and started hitting me, he would kill me—which is what he's been wanting to do all along."

Or, "*Why* is he afraid to 'release his aggressions'?"

You can play out many other alternatives, and they're all worse, I think, than the honest and terminable act of spanking. Children are quite used to a world of physical responses. The world of children is hardly characterized by noble forbearance; it consists of rather conspicuous hittings on the head, kickings in the shins, pinchings, bitings, gougings and so on. The best rule about spanking is that of Bernard Shaw: "Never strike a child in cold blood."

We teach people that every problem has a solution. It is good to assume that problems probably can be solved, but it is wise to maintain somewhere, in a corner of our awareness, the possibility that some problems are just not soluble. Here is one example of a problem which does not permit of solution. Groucho Marx once resigned from a country club with this letter: "Gentlemen, I do not wish to belong to the kind of club that accepts people like me as members." Now the problem is truly insoluble, just as are many of the problems of pride and caste and snobbery.

Supposing in Science

People tend to assume that science can

solve all problems, which is certainly not true. It is my conviction that the problems of human behavior are infinitely more complicated than any problems the physical sciences have thus far had to deal with. Here are some: How do we think? Where does an idea come from? How is an attitude formed? How can a prejudice be changed? What *is* love? What *is* aggression? What *is* insight? What *is* imagination?

It is the glory of the creative mind that it can leap over obstacles and complexities—to find, through insight or intuition or imagination, surprising solutions to problems which resist systematic or orderly solution.

I know no one more inept or obtuse than I am about many of the things I have been discussing here. I have no capacity to handle mathematics or work in the physical sciences. Everything in me groans when I see an equation, shudders when I run across a problem in mechanics. But I have one characteristic which I cherish: I am prepared to believe anything. I may not *understand* it, but I have no anxieties about believing it—for the sake of where that belief may lead. I enjoy the game of "Let's suppose . . ." or "Let's pretend . . ." or "Just for the fun of it . . ." Lest you think these are trivial formulations, may I point out to you that these are precisely the things that are involved in what we call scientific investigation—and surely in what we call the creative process. The capacity of the self to entertain (if only for a moment) absurd, irrational, outrageous, illogical, silly things; the capacity to get pleasure out of symbolic explorations—these are at the heart of the creative process. These plus daring, *daring* to ignore what you have been told is true, to ignore past rules and reason and logic, to court the unstructured chaos that rages below the surface of consciousness, to plunge into the unconscious without fear (though perhaps with anxiety, and often with ambivalence), to suspend sense.

Creativity, to me, is a shuttle between fancy and discipline, between imagination and system, between freedom and control, between fantasy and reason, between reverie and evidence, between imagination and analysis. It is a counterpoint, a kind of a roaring internal dialogue in which one part of the self tries to communicate with other parts of the self, in which the self tries to break the restraints, the conventions, the crippling restrictions of what is proper or reasonable or sensible. I wish we could teach children that there just is no such thing as "idle" curiosity. The one thing curiosity can never be is idle.

Pleasures of Uncertainty

The history of science, or the arts, or philosophy, is the story of high points reached by men who had the courage to be direct, to be infantile, to insist upon trying to bring order out of chaos, to seek simplicities among complexity. The operation of the mind in creative endeavor involves an incredible amount of loneliness and great stretches of what non-creative people are terrified of—uncertainty. There is a certain ambiguity always just beyond what is safe, what is known; and I believe that the creative personality gets pleasure out of playing there, pleasure in the unstructured fantasy life, in the wild guess, the cherished hunch. The most powerful displeasure, to the creative person, is boredom. Imagination, which is a leap into the unknown, is in part a defense against boredom.

Now you may think that all this is too abstract, that the counterpoint between reason and fantasy I mention is something which men should try only after learning how to add, subtract, spell, think, etc. But the thing we seem to forget is that we are all born into a symbolic universe, and we begin by thinking symbolically. Our first and only equipment for making sense, for locating regularity, for trying to understand form, sequence, identity, meaning is inchoate, wordless, preverbal. Some years ago, I suggested that the world of the child is much closer to the world of Einstein than the world of Einstein is to the world of adults. I remember one Sunday afternoon saying to my children, "I want to read you something." It was a passage from Eddington's *The Physical World* and described what happens when you take a step, according to nuclear physics. You are stepping from emptiness into emptiness; solidity is achieved by the bombardment of billions of electrons, and so on. So I read this passage—it wasn't more than 200 words—and said, "What do you think?"

My son, who was then twelve, said, "That sounds nutty!" My daughter, who was then nine, said, "That upsets me." My younger daughter, who was five, said, "But, of course Daddy: *I play that game all the time*."

Let me call your attention to the extraordinary experiments of Piaget with very small children, in which he tested their comprehension of space and motion as Einstein sees it. They were Einsteinians.

Copernicus offended men by daring to say that man is not the center of the world. Darwin came along and robbed us of the illusion of the uniqueness of our species. Freud came along and robbed us of control over our own souls. Harlow Shapley deflated the race by locating our galaxy, the last little hope of our egocentrism, way out, billions of heaven-knows-how-many-light-years away from the center of the universe. And now some people think that machines threaten to usurp or replace the uniqueness of the human mind. I am not among them.

Machines without Joy

We used to think that men could never devise machines that would do what the human brain can do; today some think that we have machines that will do, or do better, whatever men can do. Both views are silly. Ignorance about machines accounts for the optimism, and ignorance of human behavior accounts for the pessimism (*2*).

Machines certainly can solve problems, store information, scan and correlate and play games—but not with pleasure! And they can't stop; they don't get bored; they don't dream; they have no reverie; they have no fantasy; they don't get excited; they don't get "inspired." Machines don't grow as men grow; they don't change as men change; and they can be set for single purposes. There is almost no human activity which doesn't contain several goals, often in conflict.

We know less about human behavior than we know about animal behavior. We still have no satisfactory general theory of human intelligence, much less of human behavior. We know almost nothing about some things we do every single day, *e.g.*, try to communicate with someone else. We know very little about the process by which you get an idea from one head into another. We don't know why some people are effective at this.

I have a theory about the communication process: that men have a great resistance to being communicated with. Truly to listen means to surrender control of the self—and that represents danger, for it involves a partial surrender of autonomy. The good communicator is someone who first communicates very rapidly, very subtly, within himself and to himself. He conveys the feeling that it is safe to let him communicate with you. He creates a certain confidence that he knows what he is doing, in purpose and direction; that it is *safe* to put your fantasies in his hand; that it will all come out all right; that *he* is in control. No more powerful words of communication have been invented by the human race than these four: "Once upon a time." This phrase, "Once upon a time," puts the listener into a passive, accepting, receiving frame of mind. It says, "Remember the time when you were happier than you are now. . . . Don't worry, I know what I'm doing. I'm going to tell you a story. . . ." And there is a promise, in those wonderful four words, that four others will come at the end: "lived happily ever after."

The communicatee, when properly courted and controlled, experiences the excitement of entering the unconscious world of someone else, of having his imagination freed, used, focused—and returned to him safe. We surrender our fantasies to those who somehow reassure us that they accept responsibility for the ambiguity which must be created and the tension that will be resolved.

Communications as Creativity

The effective communicator must have a capacity for multiple identifications. He must be able to carry on, with electronic speed, an internal dialogue in which the other is encapsulated and in which he, the communicator, tests out within himself alternative ways of bridging the curious gap between himself and the other. Even the length of a word, the number of syllables, is crucial in a sentence which tries to register communicative impact. Alter one of those words, change it from a two- to a three-syllable word, or the other way around, and see how the *rhythm* changes —perhaps interferes with the curious, magical rhythm of decisive communication.

Just as good style in exposition is not much more than clear thinking, so good communication depends on the communicator's really *knowing what he wants to say*. Most people spray out a large number of sounds in speech or scribbles in writing, and hope that something will somehow happen to convey something—somehow. But the good communicator always makes himself clear *to himself* before he tries to make himself clear to others.

This puzzle, communication, exists in the paint on a canvas, in the symbols of the mathematician, in the marvelously ingenious models of the scientists, in the interrelations of human beings who try to escape their own loneliness, to share experience, to communicate feelings—feelings which are common to the human race, yet so different in each of us and so very difficult to convey—as we would really like to. Communication itself is a problem in creativity.

To unlock the awesome power of the atom was as nothing, in my judgment, compared to what will happen when we mortal men unlock the power, the beauty, the daring, the infinite imaginativeness which still reside, in secret and untapped places, within the human spirit.

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The difficulties of democratic debate

BEFORE DISCUSSING the recent work of the Pilkington Committee, perhaps I should say something about the nature of British departmental committees. They usually have a chairman and about twelve members, selected by the Department of State concerned with the inquiry. The chairman is shown the list of proposed members and can of course comment on them. The members are usually laymen but, it is hoped, "intelligent laymen" who have shown an ability to cope with a mass of new material and seem to be fair-minded, or look likely to show those qualities if given the opportunity. They are chosen in the first place for their individual gifts, not as representatives of regions or professions or anything else; but secondarily, the committee's composers do try to build in a range of interests and concerns—regional, professional, and so on. Members are not paid, but they receive modest traveling and subsistence expenses by filling in a complicated and forbidding-looking form.

When it begins sitting, the committee invites evidence from all and sundry, especially from bodies whose concerns are plainly relevant to the inquiry (but all and sundry seem always to submit evidence; we received several *million* words). The committee also reads the literature relevant to its theme, and as the written evidence begins to come in, it starts on a long sequence of meetings with witnesses. After some months, perhaps as few as 20 or as many as 40, it presents a report to the appropriate Minister, who publishes it, usually as a Blue Book.

The government is not obliged to take action on such a report. It always thanks the committee warmly for its services, but it is at liberty to shelve the recommendations indefinitely if it wishes. Thus, in recent years, neither the Crowther Report on the education of adolescents nor the Wolfenden Report on homosexuality and prostitution have been anything like fully implemented. Of course, a government which wholly ignored a powerfully argued report would be under considerable pressure from the opposition, from some of the newspapers and journals of opinion, and from influential individuals. But a safe or adroit or determined government can ride these whirlwinds quite well.

The Pilkington Charge

Governments in Britain seem to be getting into the habit of setting up departmental committees to review the record of broadcasting and advise for the future roughly every decade—that is, well before the BBC's license and charter fall due for renewal. In 1964, the Act which had created the BBC's competitor, the Independent Television Authority, falls due for renewal also. The Pilkington Committee was thus given the following terms of reference:

> To consider the future of the broadcasting services in the United Kingdom, the dissemination by wire of broadcasting and other programmes, and the possibility of television for public showing; to advise on the services which should in future be provided in the United Kingdom by the BBC and the ITA; to recommend whether additional services should be provided by any other organization; and to propose what financial and other conditions should apply to the conduct of all these services.

The language is necessarily formal and its implications somewhat opaque. What made the work of this committee different from, and perhaps more challenging than, that of its predecessors were a number of new elements. This was the first committee to review British broadcasting since the arrival of television. It was also the first such committee since the arrival of competition (with the creation of the second system by the Television Act of 1954), so it had to assess the performance of the new Authority and the effect of competition on the BBC. At least two new television channels are likely to be available within the next few years, and recommendations about their use and about the desirability of moving into UHF had to be made. The British 405-line standard for television was in dispute, and color television was being powerfully urged. Systems of pay-TV were proving workable, and there was strong pressure to license it in Britain. Finally, there was a demand for the authorization of local sound broadcasting from about one hundred hopefully formed commercial companies and from the BBC itself.

Obviously, the committee had a lot on its plate. It sat for about 22 months, tried to digest a mountain of written and oral evidence, had 78 whole-day meetings of the whole committee and 43 subcommittee meetings, took evidence in all parts of Britain and in some foreign countries, visited all kinds of broadcasting installations, and finally produced a report of 150,000 words, followed by two fat volumes which contained a representative fraction of the written evidence.

All such committees are educative for the members, but the Pilkington Committee was more educative than most. In our attitudes to broadcasting, we passed through the seven stages of our age and youth and shook off a great many early assumptions to produce at the end a report which, when we looked back from it to our own attitudes at the start, was as surprising to us as it was to many other people. Set off by the massive, wide ranging, and representative evidence of public disquiet and dissatisfaction (which was reinforced by oral evidence and by our own observations and inquiries), we had gradually but quite firmly and unanimously come round to believing that something was badly awry in British broadcasting.

Democracy on Air Waves

Our most striking conclusion was that the commercial television "experiment" (the word is the Government's) had proved substantially a failure. On the whole, it had resulted in competition for large audiences, and this kind of competition, we decided, was different from competition in good broadcasting. We suggested a radical reorganization of independent television, the award of the third television channel to the BBC, and the fourth to the ITA only after it had been reorganized and had settled down again. We advised that there should be no pay-TV and no commercial sound radio.

At first hearing, these recommendations may sound negative and restrictive. In fact, they are all based on the need to encourage greater freedom and flexibility in broadcasting, and the arguments on which they were based are naturally given in the report. For it became plain quite early in the inquiry that the babel of voices all around us was so full of contradictions that we would have to try to spell out, before we made any recommendations, what seemed to be the right criteria for democratic broadcasting in the public service.

We suggested, that such broadcasting requires the broadcasters to put on in prime time a fair range or variety of programs, varied in both subjects and moods (rather than to cater for people almost wholly conceived as a relaxed mass.) We suggested that the minorities that broadcasters should think of are not just minorities in the usual intellectual and "cultivated" senses, but minorities actual or potential in the great body of people; a great many people are highbrows, specialists, or enthusiasts in something, whether in carpentry or music or gardening. We argued that almost all of us do some things more intensely than others, and that if broadcasters do not plan their programs so as to cater to different intensities of concern, they will only hold people—although perhaps almost all the time—in a kind of lukewarm bath of low-level interest. We suggested that broadcasters should from time to time gamble on the possibilities in all of us—our ability to try something different and perhaps challenging—or they will wrongly come to assume that today's average intellectual and imaginative levels are immutable facts of nature. And by assuming this, they will probably tend to reinforce those levels, to make them "set" rather than to assist growth and difference wherever possible. We said that dissent, the freedom to differ, had to be built into broadcasting systems because, left alone, they tend to accept the status quo, to overlook the small growing points in favor of the established or popular big battalions. We asked for greater power for the professionals in the control of broadcasting, power to aim solely at good broadcasting in whatever field, from current affairs to comedy.

In fact, as the third chapter of the report makes clear, all the committee's recommendations are designed to give a greater range of better choices to the viewer and greater professional freedom to the broadcaster. We opposed pay-TV because we became convinced that such a network, which would be established only in urban or well populated areas, could be profitable to its owners only if it took some of the best existing programs away from the present networks by outbidding them. It would thus ensure that very many people in country districts would no longer have the chance to see these programs at all, and that others who now see them as part of what we call the "free" services would, in the future, have to pay quite heavily for them, item by item. The committee rejected the proposals for local sound broadcasting under commercial auspices because it became convinced that the desire to make the maximum in advertising revenues would cause such a service to concentrate on cheap, packaged, uniform programs of the disc jockey type at the expense of a balanced and genuinely local provision which, throughout its day, sought opportunities to cater to this or that local interest. Last, the committee asked for the radical reorganization of independent television because it became convinced that under the present system there is a conflict between the demands of good, democratically varied broadcasting and the desire to get the highest advertising revenue. In all these recommendations, then, the committee sought to increase the right kind of freedom in broadcasting. It asked: In these inherently limited media (there cannot be many television channels), what are the most democratic structures and policies?

Opposition and Urging

Naturally, we expected that there would be opposition to a report of this kind, perhaps much opposition. After all, and most obviously, some people would lose the opportunity of making a lot more money if our recommendations were accepted. You would have needed the tongues of angels to convince them that any radical changes were necessary. Still, we did not (or perhaps I should speak only for myself here and say that I did not) expect that the reaction would be as violent as it was. We had seen many articles in the press urging us in advance to be fundamental in our thinking. For instance, the *Daily Telegraph* in late February, 1962, was urging us to inquire why the commercial channel lacked resource and initiative in comparison with the BBC, telling us in the next paragraph that the commercial companies are primarily in the business for money, and going on to be acutely critical of them. And Mr. Altman, a journalist who has subsequently brought up to date a pamphlet on broadcasting in which he supports the commercial channel, said in the *Contemporary Review* in March that independent television is perfidiously greedy and terrifyingly smug, that television provides a basic diet of trivia and is ruled by ratings, adding to the broadcasters,

> Subject all you have created to an agonising reappraisal. Because unless you remedy some of the more glaring faults, do not be surprised if the recommendations of the Pilkington committee deal a crushing blow to your pride and in your case, gentlemen of the programme companies, to your pockets too.

The report was published at a press conference in June, 1962, and the response was immediate and violent—very violent indeed. We were accused of being authoritarians, socialistic, roundheads, do-gooders, highbrows, puritans, and paternalists; we were called polemical, smug, naïve.

It is some aspects of this reaction to the report that I want to tease out. I admit, of course, that there may have been errors of presentation, of language and of organization, within the report. But I do not believe that they significantly account for the nature of its reception. Many a report is less well organized and expressed than ours and does not attract a hundredth of the criticism we attracted. The important reasons range from the most obvious—cash—to some which are as subtle as I can get hold of and probably much more subtle than that. The argument was at bottom about freedom and responsibility within commercialized democracies: It touched on the interrelations between cash and power and the organs for intellectual debate; it had to do with a society which is changing rapidly and finds difficulty in understanding its own changes; it had to do with the dialogue about ideas within a democracy and the adequacy of our assumptions and vocabulary to many of the cultural problems now with us.

I may be merely ignorant here but I do not think—to dispose of this aspect first—that the report's reception by the government is particularly illuminating. Probably the Postmaster General himself (to whom we reported) was shocked, and no doubt he was not alone. Some people have said that this shock arose chiefly because the government expected the report to whitewash the prevailing arrangements; or more, that no government seriously expects a committee it has itself set up to be really radical; that no government will officially promote dissent. So, this interpretation runs, when setting up a committee they insure that there are no members, or only a manageable few, who are likely to go off the handle. This sounds too simple to me, and I suspect it could be contradicted by more than one fairly recent instance. Departmental committees are not intellectually fiery organisms, it is true; but they have disinterested minds and make them up for themselves.

As it happens, several members of the government, when the report reached them, were strongly in favor of accepting it either as a whole or substantially. Some others were strongly against the report; others, no doubt, didn't much care. There was, of course, plenty of pressure against it from outside, so that in the end the government took only some of the recommendations, and either ignored or watered down the others. But the point here is merely that the government's reaction seems to be not sinister but predictable, and not of great cultural significance.

Violence in the Press

The popular press were rather more interesting. They were almost uniformly violent. "Pilkington tells the public to go to hell," screamed one in enormous headlines. "Given a chance, Pilkington would recommend the suppression of your favorite newspaper," yelled another. Mr. Woodrow Wyatt, a wealthy socialist MP with an interest in the press and in commercial sound radio, told the readers of the tabloid *Sunday Pictorial*, "You trivial people will have to brush up your culture." Another paper shouted that "Big Brother TV" was 'round the corner; "if you think you're enjoying yourself too much, they'll soon put a stop to that," they added. Others spoke of "arrogance . . . this amazing document . . . a haughty conviction that whatever is popular must be bad," and insisted that we wanted compulsory ballet and chamber music for all and would like to close down football clubs. Hardly one of them bothered to give even a minimally comprehensive or balanced account of the report's actual findings.

Why were they so angry? Partly, it is obvious, because the report ran dead against most newspapers' financial interests, since most of them, at one remove or another, have a stake in commercial television. In both the popular and the quality press, there was a fair degree of correlation between the reception of the report and the existence or not of financial interest. The *Mirror* has large stakes and was very rough and nasty; the Beaverbrook press has no stakes and welcomed the report. There were one or two exceptions, like the *Guardian*, which has shares in a regional television company but dealt fairly and favorably with the report.

The response of the provincial press contrasted interestingly with that of the national papers. On the whole, the provincials were much more in favor of the report and, whether in favor or not, they dealt more fully and responsibly with it than the nationals did. This was surprising and pleasant because it suggested that provincial papers had more editorial freedom than one had begun to believe (most of them are owned by the national press or by financial groups which own national papers, provincial papers, and probably shares in commercial television).

But back to the national press, so angry and so one-sided: I have served on one other departmental committee, one set up in 1958 to report on the state of the Youth Service in Britain, which reported about two years before Pilkington. The second chapter of that report is a brief analysis of the pressures of modern society on teenagers; and though not so carefully written, that document is at bottom far more explosive than anything in the Pilkington report. Practically all the press, including the big popular dailies, said—if they decided to give the report any attention at all—"Profound . . . searching . . . radical." I suppose their strange acceptance occurred because the statements sounded nicely high toned and striking and didn't seem likely to hurt their pockets.

Threatened Journalists

But I do not believe that the competent popular journalists who reacted so sharply to the Pilkington report did so simply or even most importantly because they were employed by organizations which were financially opposed to the report's findings. I think they were probably being true to their trade in a deeper sense. Some of them attacked with what seemed genuine feeling; they were not putting on an act of the sort they employ when they decide to pillory some politician or local councillor or to attack immorality in Piccadilly. We did not expect to be handled with kid gloves and had all seen unfairness in the press before. But to me this was an eye-opener for distortion, tendentiousness, personal abuse, half truth, straight misrepresentation, disingenuousness, pseudo-honesty, and irresponsibility. It all added up to an indictment of the claims of much of our press —not only of the popular press—to be a Fourth Estate, except perhaps when it suits its own book. That press will play with top-surface dissent but will not tolerate any real criticism of those social assumptions which allow it to have its cake and eat it, to pose as public benefactors while exploiting the accidents of social and educational history. When the interests of the press are criticized—as they often are, though it is hard to find evidence that many of the major papers have seriously considered these criticisms —it reacts with vehemence and a refusal to reconsider their prosperous apologetics. Journalists react with behavior which, if it suited their need for a bit of sensationalism, they would grandly attack in anyone else.

I had one new thought, new at least to me, about such journalism from this experience—a simple idea, but quite telling: It was that a society really does get the journalists it deserves. I mean not only that it will only make certain kinds of people into successful popular journalists and so only encourages certain kinds of people to try to become popular journalists. I mean also the converse—that behind these existing journalists are the silent figures of those who might have become good journalists, who would have been glad to be journalists in other circumstances; but who knew, perhaps not consciously, that the set-up would not allow it, that they would have to make altogether too many compromises, not to question this or challenge that.

With a few exceptions, the really popular journalists accept the social system and are not given to serious questionings of it. It treats them well, or they are simply built that way, or they think they can "play" it and retain a kind of out-of-office-hours inviolability. So they fight back very hard if the system is challenged at the roots. I think, therefore, that they were deeply disturbed by the report, perhaps more deeply disturbed than they knew, because they felt themselves indicted by it. If what Pilkington said about the kinds of freedom and the kinds of responsibility which broadcasting should enjoy in a democracy was true, then it had some relevance to the press also; and the press would not come out of such an examination lightly. Of course the press is not, as broadcasting is, inherently limited in its number of outlets; so it can, at least provisionally, claim more freedom to do precisely as it likes on the grounds that all sides will get a showing anyway. It's a sort of argument, but not much of one; and perhaps secretly they knew it. Arthur Christiansen, an ex-editor of the *Daily Express* and the man to whom is usually given the credit for raising that mass daily to its present glossy efficiency, asked, "Is the free press in danger?" And he went on, "After the Pilkington Report, anything can happen."

He at least saw the relevance.

Social Science vs. Values

Such a group as the journalists is comparatively easy to discuss. More difficult was the attitude of some social scientists. A few of them reacted sharply because we had not undertaken "any solid original research," had not carried out any considerable social inquiries of our own. I wish we had, but I will not go at length into the reasons why we did not because I want to try to get below the charge itself to what often seemed to lie beneath it. I will only say that here is a field which is, in its more objective aspects, intensively worked over all the time by TAM and Nielson and BBC audience research; we did take account of all this and other available evidence, British and American; we consulted specialists and made our own analyses of viewing as we went along. More, the really difficult and relevant—research into what we might call more subjective areas—simply could not have been done in the time we had. Because of the parliamentary timetable (*e.g.*, independent television would legally come to an end in mid-1964, so new legislation would need to be prepared well before then), we had to report in 22 months, and you cannot mount an inquiry into effects on attitudes, say, in that time and get reliable findings.

One or two of the social scientists who did object did so as though they had been professionally affronted. I wondered whether in part they were angered because their new science—not so well accepted in Britain as in America—had once again not been sufficiently called in, and because they find themselves having to say again and again that they should be consulted in such inquiries. If so, I not only sympathize with them; generally I agree with them. Sometimes their irritation seemed also to be informed by the suspicion that evidence is offered to such committees only by professional do-gooders who, anyway, do not speak for the body of people and by the conviction that sociological studies can in all things provide a better guide than the *ex cathedra* opinions of such people. Yes and no. Yes, for obvious reasons: The witnesses often seemed remarkably representative and unstuffy; and no committee worth its salt simply takes over all the opinions it gets in evidence. No, because though social science may be extremely helpful and *ex cathedra* opinions often merely misleading, nevertheless, social science, though it may give you a great many useful "is's" cannot give you a single "ought."

Here was probably the most interesting aspect of all in this kind of reaction. Some of the social scientists talked as though, if you scientifically studied the evidence—of audiences, responses, and so on—then value-judgments would simply emerge from it. This view seems to me less tenable than the narrower one which was also put forward—that a government committee ought to restrict itself to collecting and ordering reliable evidence, to making recommendations on objective matters (*e.g.*, use this line system or that color system), and to laying out the social alternatives neutrally. Of course, some of the commercial companies joyfully took up this criticism of our approach. They knew very well that if you studied the data till your eyeballs turned round in their sockets, no judgments of value would emerge. You can't *scientifically* demonstrate imaginative debility. You would be left with inert masses and would probably, in the end, accept the built-in assumptions of your particular society as a means of ordering them.

We thus realized quite soon that we had been thrown into a battlefield—a small one, but a microcosm of warring views about the nature of a free society—and that this fight was extremely confused. We could do little, but it was plain that, whatever else we did, we had to try to write a kind of essay in social philosophy, an essay on the place of mass communications in a democracy, before we could begin to make sense of the conflicting evidence. People could disagree, but at least they would know our assumptions. The social sciences, though they are indispensable in preventing us from being merely impressionistic and in other ways, cannot, I think, force a single such assumption or decision to emerge.

Among the Intellectuals

Most interesting of all was the reaction among some of the recognized "intellectual" voices. They included some who would call themselves "progressives" and some of the more intellectual Members of Parliament, whether of the Right or Left. Indeed, Mr. Christopher Mayhew, the Opposition spokesman in the House of Commons on broadcasting, gave up that position because of his Party's treatment of the Report. He strongly favored Pilkington.

This kind of reaction was, of course, expressed mainly in the intellectual journals or in newspapers with some intellectual interest. But I am not so much concerned here with pointing to particular disabilities of certain journalists—I have said enough on that score—as with the general climate of opinion which the intellectual journals illustrate. In their reactions to the report, they were successfully speaking for their times, mirroring them if not throwing a critical light on them.

Again, there were favorable exceptions, and they came from a variety of backgrounds. Among those who spoke with special penetration of the Report's aims were Birmingham *Post* (a reliable provincial paper of the Right), the *Guardian* (which is Liberal, of course), the *New Left Review* (edited by younger members of the Left with a particular interest in cultural matters), *Peace News* (a weekly with a small circulation but good intelligence which ran three successive articles on the report. These three articles made up, in my view, the best of all the immediate assessments of the report), and *Contrast* (a quarterly published by the British Film Institute and almost wholly concerned with television criticism. It was good to see people with close professional knowledge saying that the report made sense for those who work in the field). There were also many impressive individual tributes—impressive for their particularity; they were not just messages of general goodwill and approval. But it would not be relevant to quote them. I am concerned with what the attacks on the report seemed to indicate about the condition of "the cultural debate" in Britain.

A great many people seemed unable or unwilling to rethink in the way Pilkington had tried. To take a small instance first, there was (alas, still is) a favorite intellectual cliché of the sort which allows people to feel progressive and anti-Establishment and runs as follows: The BBC is really a stodgy old Auntie, and in spite of its obvious faults, ITV is "the people's channel." I remember that at the beginning of our work, some members of the committee felt rather like that; we were anxious not to seem automatic highbrows (not that we were by disposition, anyway, but we knew that many people had assumed that we would start with a bias in favor of the BBC, and we were determined to insure, so far as we could, that there was no such bias). We tried to think and write demotically. But by the time we drafted the report, we had come to the conclusion that all in all, the BBC is a pretty alert and remarkably *professional* body with a flexible sense of its job, and that the commercial channel could not in any comprehensive sense be said to "speak for the people." This opinion startled many reviewers. When we are caught with our clichés unready, it is always difficult to adopt a new position, and we tend to react by standing even more stiffly in our habitual postures. That is what happened here.

Poverty in Debate

This was probably the most simple indication that the terms for this kind of debate were in very poor shape. Another was the extraordinary confusion shown in evidence (and reflected in the treatment given to the report) about that hoary, apparent conflict between "giving the people what the people want" and "giving the people what they ought to have." It is an antithesis familiar too in the United States. Most of our critics simply bypassed the early section of the report, in which the two statements are unpretentiously examined, as though a consideration of it would have taken a "good root-confusion" away from them. It seems strange that a government report should have been, as it is to the best of my knowledge, the only recent publication in Britain to have made at least some attempt to cross this *pons asinorum.*

Similarly, some people became stuck in the proof-of-the-pudding dilemma: "After all, people watch the commercial channel more than they watch BBC, and therefore it must be for them the better channel. The proof of the pudding, . . . You and I may think that some things are better than others, but wouldn't it be undemocratic to try to force these things down people's throats, etc., etc. . . ." Not that we had suggested or implied any forcing. Still, the most interesting comment on this is that most people in the country do not seem to find a dilemma here. Four or five public opinion polls, taken just before or just after Pilkington, showed that a majority make the distinction Pilkington made between the channel you watch rather *more often,* because it is more frequently relaxing, and the channel which you think is doing the better job over-all and which you watch with *more interest.*

Again, in our chapter about advertising on television, we distinguished between two main kinds of criticism in the evidence submitted to us. First were what might be called "objective" criticisms—that some advertisements were untruthful or plainly misleading, say. Second were less tangible and more subtle criticisms about the effect of advertising on individuals and on society—about the instincts it plays upon, the images it suggests as desirable, and so on. Of course, this second kind of criticism is part of a general critique of advertising which has been deployed for several decades, and one would have thought that it was known to anyone interested in social and cultural questions.

But the really surprising thing was that many of our critics seemed never to have heard of this analysis or, if they had heard of it, to have immediately dismissed it. I do not mean only men in the advertising industry; they tended to look at the criticism as though it had been written in Sanskrit and then quickly to walk around it. Others balked for a moment, as embarrassed as though *we* had been caught in some extraordinary ingenuousness. Then they said, "Really! What sort of a world do these people think this is? Let's at least be realistic." In the House of Lords debate, one Bishop remarked, in effect, that one could hardly expect advertisers not to use whatever devices were available. One couldn't ask too much of people. After all, one had to be realistic. I wondered how he would react if someone made that kind of comment about the more important Christian commands.

Worse was to come when we tried to discuss the actual quality of the programs. As I have already suggested, we were anxious to get away from the old disabling distinction which puts serious=highbrow=good in one box, and light=lowbrow=bad in another. We observed, of course, that the light and the serious each had their place, that goodness or badness was not a matter of height of brow but had to do with the quality of the imagination and the response to life in any work, whatever its mood. Therefore, a serious (*i.e.*, "highbrow") program could be thoroughly bad and a "light" program excellent. We attacked a particular fault which seemed to run through some programs of all kinds and was probably due to an excessive fear of the audience. We called this "triviality" and meant to indicate by it the way in which technique, gimmicks, can become dominant, so that the packaging is more important than the product. Perhaps ours was not the best word for what we meant; "meretriciousness" might have been better. Still, we did try to define what we meant by "triviality":

> Triviality is not necessarily related to the subject matter of a programme . . . (It) resides in the way the subject matter is approached and the manner in which it is presented.
>
> A trivial approach can consist in a failure to respect the potentialities of the subject matter, no matter what it be, or in a too ready reliance on well-tried themes, or in a habit of conforming to established patterns, or in a reluctance to be imaginatively adventurous . . .

Critical Standards

This is, of course, only a generalized and summary statement of what good television critics (and critics of all kinds) have always recognized. Here, for instance, is the television critic of the *Sunday Telegraph*, talking about one of the British entries at the first Festival of Television Light Entertainment at Montreux sometime before the Pilkington report came out:

> The nadir came with ATV's disgraceful entry on behalf of commercial TV, the "Jo Stafford Show." This manifestation of British art couched in the American idiom was presented so ineptly and unflatteringly to all concerned that the assembled observers gave it a kind of slow handclap.

He goes on, "Any lingering doubts about the unfitness of the present ITV set-up to continue after 1964 were effectively dispelled." But that's not my point now. I simply want to show that he knew triviality when he saw it, even though he may never have made a general statement about it. When we tried to tease out such a statement, most of the critics shied nervously away from it, as though they simply could not apply it to any known imaginative or artistic experiences or were afraid of its weight and implications once it had been so summarily put. So they tended to define what we said as an attack on "the ordinary man's" freedom to relax, as a puritanical mistrust of lightheartedness.

Matters were much the same with our discussion of violence on television. We received a mass of submissions against what was regarded as excessive violence. Most of them were rather crude, assumed that there was a close correlation between every act of violence on television and every act of juvenile delinquency, and hammered at this "social evil" in so imprecise a way as to make it certain that if Shakespeare had been writing today, hardly one of his plays would have had a chance of a showing. So we tried to define the inevitable tension between imaginative freedom and social responsibility here—a difficult job and one we could hardly do adequately. But I believe we said one or two useful things. Again, the response of a great number of commentators was interesting. Because we did not simply say "Freedom is all, and any qualification to that clause is a surrender to the Mothers' Union," we were called fuddy-duddies. It's very strange; here more strikingly even than elsewhere, they seem just not to have read our chapter, but to have put into it what they assumed in advance would be there.

The Cultural Mode

Much the most interesting of all was what I think of as the "moral condition muddle." We said more than once in the report that broadcasters have to recognize, whether they like it or not, that they are in "a constant and sensitive relation to the moral condition of society" and that this gives them responsibilities very difficult to define but not easy to shrug off. Not felicitous phrasing, perhaps, but it is not easy to find a sentence less full of adjectives which says just what we wanted to say. The sentence itself—in particular, the meaning assumed for the word "moral"—is an instance of what Lionel Trilling recently called, I think, "the cultural mode of thought." It meant, of course, that the quality of the life of a society as expressed in its texture—its assumptions and values as bodied out in its habits and ways of life—that these will be reflected and to some extent affected by broadcasting as by other forms of mass communication.

We knew that a few would think we were defining a crudely moralistic relationship, were saying that broadcasters had a responsibility for the direct propagation of the Ten Commandments. But we thought the vocabulary of the "cultural mode of thought" was sufficiently widespread for our sentence not to confuse informed people, whichever side of the argument they were on. We were wrong. The *Time's* leaderwriter was among the first and most striking of those who seemed to assume that we meant that broadcasting has a duty to promote ethical precepts; he led a fairly large chorus of respected organs of opinion, including some of the educational press.

That word "moral" affronted some of them like a Gideon's Bible found at the hotel bedside of a roving agnostic. It became a word of irony, of scorn and contempt. In all the debate, I only once saw it used seriously by any of our critics, and that was in the *Investors' Guardian* and on another aspect of the report. They noted that most investors assumed that our proposals for reorganizing independent television would seriously damage profits, but said that their calculations suggested that profit levels under the new system (if it were accepted) would be adequate. They went on, "But even if the commercial viability of the proposed scheme is accepted, it does not necessarily follow that the system is desirable from the political and moral point of view."

But that use of "moral" is hardly drawn from the vocabulary of the "cultural mode of thought."

The heat engendered by the word "moral" was reflected also in the reaction to almost any phrase which suggested some sort of responsibility or commitment. Here the criticisms tended to focus themselves on style. You felt that these critics were determined to "mistrust the big words;" and remembering, say, Joyce and Hemingway on the need to do just that today, you might have supposed at first that their attitude was fed by a decent ironic refusal to strike large or public postures. On a closer look, however, you noticed that these people mistrusted only *certain* big words, whereas they used others freely. They mistrusted the words of order and were pushovers for the words of freedom. They mistrusted "moral" and "responsible"; they loved "freedom," "democratic," "anti-humbug," and (of course) "realistic." To *these* large words, they tended to give automatic cheers.

Equally, they mistrusted certain manners. Ours was certainly a soberly written report. Our secretary, who wrote it, had a clear and strong mind and a sobriety of style to match. Some people saw the strength there and remarked how unusual it was to see a case well and firmly argued without a gimmick in its 300 pages. But most of the critics I am describing were at sea. They had to rummage in the box for what was to hand, and they came up with the old expected big words of dislike: "censorious," "pompous," "priggish," "prim," "governessy," "ponderous."

But just as these people seem habitually to mistrust certain manners, so they habitually approve of others; they like, for instance, what they would call irony. But in fact, they do not often distinguish between the ironic style and that of the smart Alec. A knowing manner seems to act as a guarantee to them of their escape from some trap which they fear deeply. Perhaps it is felt to indicate that they are free of "Establishment" stuffiness, or perhaps it helps them to feel at one with their audience, whom they assume to be congenitally anti-Them. Whatever the reasons, most of them would not be seen in public print unless they had put on a peculiar kind of sophisticated tone. All in all, we walked a rough road in trying to find a plain demotic voice: It ran right between those who make a living by being professional narks and triggerhappy shooters at clay feet on the one side, and on the other, the organ-voiced and archaic chauvinists, one or two of whom, as though to redress the balance, favored our report by misreading it in their own way.

Toward Sane Affirmation

Auden has a line about the lack today of any "sane affirmative speech." I remembered that line a lot in the weeks after the report came out. We lack even a moderately precise vocabulary for the discussion of the cultural questions raised by the study of broadcasting. We have no adequate terminology, no adequate sense of the history and process of this kind of cultural change, and no adequate language for the discussion of the popular arts.

I have more than once admitted that the Pilkington Committee made mistakes. And we were severely criticized for them. But my argument has been that the curious reception of the Pilkington report illustrates much more than the errors of a committee. I believe it was attacked as sharply as it was because, first, most of its critics were simply not ready to admit "the height of that great argument," that this was an argument about freedom and responsibility in a democracy. We did not match its demands, but we did see something of the scope of the argument, and we tried to show that it was social, cultural, personal, and moral as well as economic and political.

We tried to find a genuinely democratic position. We tried to challenge, directly or by implication, in our discussion of the actual programs and of organizations, that sociocultural stratum of British society which thinks that all demands are satisfied if there are symphony concerts for the highbrows and quiz-shows for the masses, and never the twain shall meet (except perhaps in a few muzzy areas of togetherness, such as when we all hear the Queen's speech on the afternoon of Christmas Day).

In all our recommendations we were seeking to extend intellectual and imaginative freedom, to give more room for variety and dissent. Our view of society was based on the idea of change and possibility, on the idea that there are within the huge majorities lots of overlapping minorities, on thinking not only about what we are but of what we might become if given wider and more varied chances. By contrast, many of our critics —for all their claims to be smarter and more progressive—had, below the obvious debating levels, deeply conservative and static attitudes.

The greatest disappointment in the reception of the Pilkington report was not that so many publicists disagreed with it, but that they approached its themes so thinly and shoddily prepared. Here was a confrontation of an unusually searching kind, and few were ready for it. This has implications, depressing implications, far wider than those for broadcasting alone. The consolation, of course, is that some people, far more than one might guess in the face of the clamor of antagonistic public voices, did see that the report had aimed at a better understanding of one of the most important areas of social change. I have said a lot about attacks on the report and little about favorable comment. I would like to end with one such extract only:

> It has had a visible effect on individuals as well as organisations; I have in mind the numerous people who have had a new light in their eyes since it was published. This may seem imaginative, but it seems to me . . .

It is rather imaginative, yes; but I believe it is true to the reaction of many of those private individuals who did read the report; and truer to what, had they read it, would have been the reaction of many others than was the violence of the journalists who claimed to speak for those others.

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Escape from the land of the Lotus Eaters

It is traditional to make gentle fun of addresses delivered on graduation days or on anniversaries of famous institutions. Yet an anthology of this prosaic literature would constitute a valuable commentary on changes in social attitudes. It would reveal many of the beliefs, hopes, and fears which each generation has experienced and tried to hand to the younger generation, along with the responsibility for carrying on the torch of life.

Progress—A Modern Concept

This compendium would unquestionably restate time and time again, the duty to live up to the past, and to complete the noble work begun by predecessors. But there would be no mention of progress until modern times. Surprising as it may seem to us, the belief that man can improve his lot on earth is a relatively recent attitude. For countless generations, man believed with Ecclesiastes that there is nothing new under the sun! At the most, this static view of history was supplemented in the past by the myth of eternal return—the theory that periods of prosperity always follow periods of poverty, that happiness and despair succeed each other in ever repeating cycles, just as certainly as spring follows winter. In this light, the most that could be done was to emulate the finest achievements of the past.

Beginning with the sixteenth century, one would find in academic addresses a few bold statements that man can improve his estate by a rational management of the social structure and of his own personal life. Then by the nineteenth century, the idea of progress achieved universal currency. Our direct ancestors overflowed with pride in what they had accomplished, and swelled with confidence in what was soon to be done. The celebration of jubilees was taken as just an occasion to plant the seed for the bigger and better jubilees of the future.

During our own times, however, there has been a marked weakening of enthusiasm and confidence. Speech makers are now prone to emphasize not the faith in the improvement of man's estate generated by scientific knowledge, but the overwhelming social responsibilities that this knowledge entails; not the broad horizons of life in the future, but the concern that unless we mend our ways, there will be no future for mankind.

The orators in my hypothetical anthology rarely express an original thought; they but reflect the mood of their times. Fortunately this mood is conveyed in a more entertaining fashion by story tellers, dramatists, and poets. At any given period, the expression of social moods is found most authentically in legends and myths which have retained their vitality for thousands of years, but which have taken different forms to fit the time. Like rolling stones, legends and myths take new appearances as they move on. If per chance they come to rest, they gather moss which may mask their real character, but their fundamental structure remains unchanged. The core of eternal truth which they retain makes it possible for them to survive in new surroundings. It is to one of these legends, the story of Ulysses, that I shall turn. Its successive transformations bring out the fact that while man's love of adventure is very ancient, the scope of his adventures is ever widening.

Ulysses Through the Ages

The story of Ulysses, of his travels and adventures, is one of the most ancient legends of mankind, always the same in its core but endlessly different in its external forms. Three thousand years ago, Homer codified in the *Odyssey* some very ancient Mediterranean tales. Ever since his time, countless story tellers have continued to elaborate on the same theme. The lasting appeal of Homer's *Odyssey* does not come so much from its quality as literature, as from its symbolic meaning. Ulysses's adventures symbolize man's trials, experiences, and temptations as he tries to fulfill his destiny. The different forms and meanings taken by the legend of Ulysses's travels through the ages can be regarded as the saga of mankind.

Homer's Ulysses was obviously a very complicated person with many conflicting traits. He loved fighting and adventure and could withstand extraordinary hardships, but he was also captivated by the charm of Circe and Calypso, and he enjoyed the ease of life among the Lotus Eaters. Above and beyond his sensual and irrational urges, however, he had a well defined goal; he wanted to return to his home in Ithaca. He even gave up the chance to enjoy perpetual youth and immortality by the side of Calypso for the sake of his somewhat boring duties as a small landowner in company with the aging Penelope. It is evident that for the Greek poet the fulfillment of human life was to be found in the return of man to his source.

The spirit of adventure took a more lively form in Europe during the Renaissance. A few men were bold enough at that time to believe that human life could soar beyond the limits reached in the past. It was this increased boldness which came through the character of Ulysses as depicted by Dante in the *Divine Comedy*. According to Dante's account, neither Ulysses's longing for home nor his desire for rest and comfort could still his thirst "that nothing remains concealed to me." On his travels, Dante's Ulysses reached at the Pillars of Hercules the boundary stone set "so that man may turn about at this place." Yet he exhorted his companions to go on:

> Do not deny the last remnant of your lives to learn one more thing—whether, following the sun, we can succeed in seeing that part of the world that is without man. You have your lives, not so that you may live like beasts, but rather that you may strive for fame and knowledge.

Ulysses's mariners sailed for five months. The stars of the other pole arose; then they saw a high mountain in the sea. It was the mount of Purgatory from which came a storm of such violence that the sea swallowed up the ship and the men. Thus, Dante points to the moral that men may founder on his presumptuousness if he tries to transgress the limits that God has set for him. For the medieval world of Christianity, it was permissible for man to dream dreams, but there were limits to what he might fittingly undertake.

Expanding Possibilities

As centuries went by, man increasingly dared to go beyond the medieval limits, in exploration techniques, in philosophy, in aspirations. He was so successful indeed, that by the nineteenth century there seemed to be no limit to the enlargement of his existence. Progress, which had been at first a rather tenuous philosophical concept, became the normal way of life, an open-ended process. When Tennyson restated the myth of Ulysses in his famous poem, he interpreted the urge for adventure, for understanding, for achievement, as the very essence of the human condition. Tennyson's Ulysses was voicing the nineteenth century faith in progress when he urged his companions to "sail beyond the sunset," simply:

> To follow knowledge like a sinking star,
> Beyond the utmost bound of human thought. . . .
> There lies the port; the vessel puffs her sail;
> There gloom the dark, broad seas. My mariners,
> Souls that have toil'd, and wrought, and thought with me,
> That ever with a frolic welcome took
> The thunder and the sunshine, and opposed
> Free hearts, free foreheads,—you and I are old;
> Old age hath yet his honor and his toil.
> Death closes all; but something ere the end,
> Some work of noble note, may yet be done.

These stirring words of Tennyson symbolize the confidence of his age in the expanding possibilities offered by the world. Men of the nineteenth century were not much concerned with defining their goals. What mattered for them was moving onward. They were satisfied with the knowledge that some work of note was yet to be done, and they believed that progress, forward motion, would inevitably bring mankind to an estate better than the past or the present.

From Dream to Nightmare

Until the end of the nineteenth century, Western civilization produced an abundance of Utopian literature. Utopians differed somewhat in their formulation of the ideal world, but they all believed in the possibility of reaching this ideal through reason and science. One might have thought that this hopeful utopian literature would have increased during our times with the ever growing control of nature by means of science and technology. As is well known, however, just the contrary has happened. Depressing visions of the future, typified by Aldous Huxley's *Brave New World* and George Orwell's *1984* have replaced the optimistic visions of Thomas More and William Morris as the characteristic literary utopias.

The most disturbing aspect of this change of mood is that the modern counterparts of the classical utopias are not denials of the past, but rather extrapolations of what science has created in the most prosperous and powerful Western societies as they exist today. *Brave New World* was written specifically as such. Modern man discovers with dismay that while the visions of the great utopians have now become reality, the result has not been an increase in happiness. Instead, the realization of utopia threatens to destroy the very qualities which have given distinction and richness to human life in the past. It appears at times as if man had emerged from brutish existence through the creations of his brain, only to be turned into a robot by the industrialized products of these creations. He has freed himself from slavery of want, but is becoming the slave of his possessions.

Even more than his nineteenth century ancestors, modern man is convinced that he can continue to move forward, indeed that it is within the power of science to help him reach any particular goal that he sets for himself—whether it be attaining old age, escaping from work, traveling into space, describing the intimate nature of matter and life, or even modifying the human race. But now that he has so completely succeeded in bringing into existence the utopia imagined by his ancestors, and is so unhappy about some of the effects on his life, he is increasingly concerned as to what the future will bring. The overtones of human power and control over nature create a mood of uneasiness, at times degenerating into the nightmares peculiar to our age.

Lost Work of Noble Note

Few are those who believe that health, happiness, or meaningful existence can come from just moving hopefully but blindly onward. The modern Ulysses no longer is satisfied with Tennyson's vague though enthusiastic conviction that "some work of noble note may yet be done." He knows that he has the means to achieve almost anything, but also that there is not time to do everything and, furthermore, that not everything is worth doing. Homer's Ulysses wanted to get back to Ithaca; Dante's Ulysses was warned not to go beyond certain limits; Tennyson's Ulysses believed that just moving on was a sufficient formula of life. The modern Ulysses has unlimited power and knows that he can go anywhere, but he does not know where he should go. He has to make choices, to formulate goals, or at least to select directions of emphasis. At times he wonders whether he should move at all. Increasingly and with anguish, he has come to realize that true progress cannot come only from increase in knowledge and power. Human progress demands the discovery of higher values.

It is far more difficult for modern man to formulate worthwhile goals than it was in the earlier phases of civilization. In the past, the production of food, shelter, and clothing, the limitation of physical effort, the alleviation of all forms of suffering, constituted well defined objectives which could be reached by technological improvements. The pursuit of knowledge for its own sake was also simpler. The amateur of bygone days could make significant contributions; almost everyone could understand the facts discovered in any area of scholarship, and any new piece of information helped to dispel ignorance and the fears engendered by superstitions. In contrast, it is now much more difficult to formulate goals because the elementary problems of survival have been solved and because enough knowledge is available to provide, if not complete understanding, at least a rational attitude towards the cosmos.

We have enormous resources and powerful means of action. The difficulty is to choose what is most worth doing among all the things that can be done and should be done. Should we increase further the comfort and ease of life; abolish more completely all forms of suffering and of effort; try to bring about a true brotherhood among men; achieve more intimate communion with the cosmos; or strive for deeper knowledge and understanding of the universe, or for greater esthetic appreciation? All these purposes, and many others, are worthy of human effort, but they cannot all be pursued simultaneously with equal vigor. Because choices will have to be made, there will have to be judgments of value.

Man's Open-Ended World

The cynics, or those who consider themselves realists, can in fairness point out that selecting goals acceptable to all, or searching for a new faith to unite society, is like chasing a will-o'-the-wisp. Many kinds of philosophical, social, and religious faiths have appeared in the course of history, only to disappear as they were about to be grasped. The Greeks launched Western culture with an ideal of perfection which has never been surpassed, but very soon Greek art degenerated into lifeless and repetitious forms; Greek philosophy became hairsplitting and barren formulae, and Greek science spent itself on an endless elaboration of details derived from questionable premises. Christianity was at first pure love, then mystical genius during the thirteenth century; but now its most common expression is conservative and uninspired social ethics. Scientific rationalism promised to explain the riddle of the universe and of life, but today many sophisticated scientists acknowledge the inherent limitations of human knowledge and of scientific understanding. What remains at the most is a sort of childlike confidence that science can solve all technological problems—and even this confidence has been tarnished by the increasing awareness that power and wealth do not necessarily make for a happy life.

How, then, can one speak of national purpose, social purpose, or any kind of purpose? In reality, no one can tell where the goals are, nor even define the good life that mankind should try to achieve.

The difficulty perhaps is that we are asking the wrong questions and misinterpreting history. The Greeks of the Hellenic period did not live for a well defined purpose or work toward a common goal; neither did the builders of cathedrals nor the founders of scientific rationalism. Instead, what has characterized the creators of great civilizations is simply that they believed in a set of values which transcended comfort, effortless existence, and the pleasure of the moment. Their faith was not an abstract doctrine but a sort of emotional and intellectual commitment to the human condition.

Man—Adventurer in Values

There would not be any human history if mankind had not always been motivated by a certain kind of trust in the possibility of reaching beyond the present. The fundamental concern of mankind is for the future—indeed, for some kind of immortality. Curiously enough, it need not be a precise image of the future, only a vision of some open-ended vista with a suggestion of ascending growth toward a better world. In the Phillips Gallery in Washington, DC, there is a painting by Daumier which beautifully symbolizes man's dedication to the future. It shows a vigorous and handsome young man on a barricade with outstretched arms and clenched fists. His visionary gaze is lost in the distance toward a future that he will never know because he will not live long enough; bullets will probably soon strike him down. Certainly, it is a vague future that the revolutionary on the barricade sees in his imagination; at most it means Liberty, perhaps Equality and Fraternity. But Daumier's hero is the symbol of Man, the animal with an open-ended future which he creates through faith in the human condition. He is the eternal nomad of the questioning spirit, haunted by the future and blind to danger, the eternal standard-bearer of causes that he judges worthwhile.

Despite so many appearances to the

contrary, modern man at his best is also motivated by the same kind of trust. Like the classical Greeks, like the cathedral builders, like the rationalists, and like Daumier's revolutionary on the barricade, he also has made judgments of values. He knows that it is important to advance knowledge even if financial rewards are small; to enlarge and enrich the intellectual and emotional perception of the cosmos through science, literature, and the arts. He realizes more and more the truth preached by philosophers for several millennia, that the selfish pursuit of happiness always ends in disappointment. Self-centered as we all are, and slaves to our earthy appetites, we all believe nevertheless that while it seems foolish to trust in human nature, it is the attitude of a traitor not to believe in the ultimate greatness of man, and the act of a coward to despair of his future.

The fundamental human attribute is the freedom to choose and, if need be, to elect responsibilities, painful effort, and dangerous risks for the sake of some transcendental value. It is this way of life which differentiates man from the rest of creation. It corresponds to a faith more entrancing and more comprehensive than the view of the good life by the Greek philosophers, than the vision of heaven by the medievalists, than the rational world conceived by the natural scientists, than the utopian societies imagined by political reformers. It is the largest possible faith, simply because it is open on an endless future with unlimited possibilities.

Even in our times, which are said to be so materialistic and so scornful of ideals, what really excites the world is the account of a dramatic rescue at sea or in the bottom of a mine; the struggles of an explorer reaching for the Pole or climbing Mount Everest; the daring of Lindbergh's first crossing of the Atlantic or of astronauts shot into space; the willingness of an idealist to die of starvation for the sake of his country's political freedom. These events do not in any way affect the everyday life of the common man, nor have they any meaning which can be referred to his animal origins. But they sharpen his awareness of belonging to a community—mankind—which, progressively, in the course of time, has come to encompass the whole world; they help him participate, even though vicariously, in a great adventure that transcends the satisfaction of material needs and the search for pleasure.

The Living Past

As man attempts to move into an open-ended future, he must continue to carry the burden of his past, often at great effort. Modern man may live and function in air-conditioned rooms and eat the same food throughout the year; yet the physiological functions of his body exhibit the seasonal rhythms that evolved when he was exposed to cold in the winter and to heat in the summer, and when his food changed in type and in amount according to the season. He has acquired a number of social disciplines which help him control the expression of his moods and his emotional responses; yet he cannot prevent the occurrence of hormonal and chemical events which prepare his body for fight or for flight, just as happened in the body of his animal and Paleolithic ancestors. He may be unaware of ancient civilizations and of prehistoric people, yet through ill-understood mechanisms, biological and social, he continues to display certain patterns of thought inherited from them which condition his behavior and his conceptual views of the world. Like Tennyson's Ulysses, he can truly say, "I am a part of all that I have met."

This persistence of ancient traits contributes to the prolonged survival of so many myths and legends despite endless and profound social transformations. Ancient theories concerning matter and life also seem to be adaptable to the expanding range of knowledge and understanding. What an extraordinary fact that the words used by the pre-Socratic philosophers to explain the universe and human behavior should still prove useful in the statements of experimental science! Modern scientists continue the dialectic discussion begun 2,500 years ago between the proponents of Heraclitus's flux and of Democritus's atomicism. The faith that there exists in the universe a fundamental unity and harmony is proclaimed by Einstein and Heisenberg in words not very different from those used by ancient philosophers. Most of the great emotional and psychological problems of today still find their idealized expression in the characters of Greek tragedies and comedies.

The past persists—organically, emotionally, and intellectually. It is progressively modified in the course of time, but it remains always a living force of such power that no adaptation can be successful unless the adaptive processes are related to it as much as to the factors of the external environment. Thus, it seems impossible to prepare human beings adequately for the world of tomorrow without keeping in mind that the racial past is never completely lost even though it may be masked by civilized life.

Reality Outside Reason

In planning the world to make it a fit place for human beings, there is a tendency to think of the past as something gone by—interesting, yes; but not very relevant to the problems of the present. This mistaken attitude comes from an exaggerated emphasis on the rational aspects of life. Western civilization has retained from Greek culture only the aspects which correspond to a rational way of looking at the world, but there was more than reason in Greek life. The irrational or, more exactly, the non-rational played a very important role in classical Greece, and it continues to be a dominant factor in our own life. The Dionysian cults, the Eleusis mysteries, and all the religious celebrations marking the turn of the seasons or other celestial events, characterized Greek civilization just as much as did the logic of Socrates, Aristotle and Plato. Hygiene, physical and mental, included then the submission to occult forces (the non-rational forces) as well as to the rational ordering of life. It should be emphasized at this point that although the word "irrational" has wide currency in our languages, its meaning is far from clear. In many cases, it is used merely to designate manifestations of natural forces and of genetic traits in man which are not yet identified but very real nevertheless. The determinants of behavior which are called irrational are simply those about which not enough is yet known to bring them within the realm of reason.

Utopias and the Irrational

The persistence of the past imposes inescapable limitations on what man can become adapted to; but more interestingly, this living past constitutes the indispensable raw material for all human creations. It is high time that physiologists, psychologists, and educators formulate programs for the study of man, considered not only as he exists at a given time in a given environment, but also as he has the potentiality of becoming. Most of the evolutionary and adaptive potentialities of man remain unexpressed under ordinary circumstances. They can be revealed only by letting the evolutionary wealth stored in his nature respond to a wide range of conditions.

Unfortunately, the dynamic aspect of human nature has not yet received the recognition, let alone the systematic scientific study that it deserves. To a lamentable extent, experimental science, especially with regard to man, has been dominated by the reductionist philosophy which emphasizes the analytical breakdown of the whole into its constituent parts. It is not fashionable to study the range of responses by which living man expresses the wide spectrum of his potentialities. Yet it is obvious that the trends of man's social evolution, and the gamut of his civilizations, owe their variety and richness to the fact that many different aspects of his nature can react with the environment to give rise to unpredictable or, at least, never predicted manifestations. There is always an emergent quality in human life because human nature has so many resources in reserve that a new creation is likely to emerge whenever man encounters new circumstances.

The creativeness of human life resulting from the interplay between man's attributes and those of the environment stands in sharp contrast to the fact that all utopias formulated in the abstract on a purely rationalist basis have been stillborn or have soon disintegrated and vanished. It is now clear that even the most vigorous and imaginative of utopian visions, like Thomas More's, would have led at best to the creation of a dreary paradise, suitable for correct but uninspiring very grey men in flannel suits. All utopias correspond to narrow and hopelessly circumscribed welfare states, from which real human beings of flesh and bone would soon try to escape in order to fulfill themselves more completely. Utopias cannot survive because they are based on the false assumption that the rational man is the real, the complete man, whereas he represents in truth only a very small part of human nature. Like an iceberg, the rational component of man floats above the surface. It can be observed and measured, but what moves it are the currents that impinge on the unseen parts.

The rational components of man constitute such a small percentage of his nature, and they are so well understood on the whole, that it may be possible to fit and operate them within the confines of utopian worlds. But the irrational components are much larger and richer, much more reactive and creative. Their contact with the environment commonly results in new manifestations of life and new demands which cannot be accommodated within Utopia. H. G. Wells was the first to perceive that Utopia could survive only by evolving, that is, by becoming something else than what it was first conceived to be. In his words:

> The Utopia of a modern dreamer must needs differ in one fundamental aspect from the Nowheres and Utopias men planned before Darwin quickened the thought of the world. Those were all perfect and static states, a balance of happiness won forever against the forces of unrest and disorder that inhere in things. One beheld a healthy and simple generation enjoying the fruits of the earth in an atmosphere of virtue and happiness, to be followed by other virtuous, happy, and entirely similar generations, until the Gods grew weary. Change and development were dammed back by invincible dams forever. But the Modern Utopia must not be as a permanent state . . . but as a hopeful stage, leading to a long ascent of stages.

Education and Adaption

Throughout most of history, it was justified to identify education with knowledge of the past because the conditions of life changed so slowly that the better part of wisdom was to let one's behavior be guided by ancestral teachings. The demand for educational reforms was always the greatest during periods of rapid social change—for example, during the early Renaissance and Enlightenment as expressed by Comenius, Rabelais, Montaigne, Milton, Locke, Rousseau, etc., then again and especially during our own times. Societies become concerned about education whenever it appears that the experience of the father will no longer be sufficient unto the son.

It would be relatively simple to devise an educational system for a utopian state because the goal would be well defined. But since Utopias are incompatible with the complexities of the human constitution, the real task is much more difficult; modern man must be prepared for a future which is unforeseen and probably unforeseeable. The only future that can exist for mankind is one in which man, always emergent, reacts with the environment through the agency of everything that is in him, and this includes his racial, social, and individual past. To the mind with universal knowledge postulated by Laplace, the result of this reaction might be predictable; but in practice, it is not. The future is unpredictable, open-ended, because man can and does exercise free will. He creates the future everytime he makes a decision, elects to move in a certain direction or not to move at all.

To be complete, systems of education must concern themselves simultaneously with two very different human problems. On the one hand, they must take into consideration all the characteristics of the learner and provide every possible opportunity for his development. On the other hand, they must keep in sight the social aim which justifies the educational effort, namely, the achievement of the good life. When Aristotle wrote that education exists for the sake of a good life and not only for the sake of life, he was obviously influenced by Plato's statement in *The Laws* (689): "The ignorance most fatal to states and to individuals is not ignorance in the field of technology and the professions, but spiritual ignorance. Hence education is essentially a training in values." And it remains true that concern with ultimate values should condition all educational systems.

Homer's Ulysses had his mind set on returning to Ithaca. What he needed to fulfill his goal was physical stamina and shrewdness to overcome the difficulties on his way, and moral stamina to escape from the easy, pleasant life offered him by Circe, Calypso, and the Lotus Eaters. The modern Ulysses has larger ambitions. Despite his disappointment in the social and economic Utopias brought into being by technology, in general, his dream of unlimited knowledge and his eagerness to control nature are more alive than ever. This dream and this eagerness, rather than the achievement of a particular task, constitute indeed the formula for current western utopians. That high aspirations exist in our communities is revealed by the public interest in the space projects, in the great atom smashers, in anthropological explorations, in studies of the origin of the universe, of life, and of cultures.

Because It's Here!

Society is willing to devote an enormous percentage of its resources to the exploration of the moon and of other celestial bodies, not because it expects material benefits from the achievement, but because deep in the human heart there exists the conviction that whatever man might be able to do, he must try to do. Just as Homer's Ulysses did not long remain satisfied with the physical pleasures that he experienced on his travels, so a significant percentage of mankind continuously escapes from the temptations of the lazy comfort that technology so lavishly provides. The pessimist can properly point to the hollow men created in such large numbers by technological civilization, but the optimist knows that the world heroes are still those who issue the clarion call for adventure, even though the price be sweat, blood, tears, and death. And in final analysis, those who refuse to be hollow men and who escape from Lotus Land are the ones who affect the course of events and who eventually determine the fate of the Lotus Eaters.

Education must, of course, aim at adapting man to the environment in which he has to live and function. Adaptation can be successful, however, only if it involves not only the present, but also the past and even the future. A passive state of adaptedness providing security and comfort is not a sufficient formula for success, or even for happiness. In fact, it spells failure in the long run because its consequence is cessation of growth. Evolutionary doctrine reveals that species which are the most completely adapted to a given ecological situation are usually highly specialized and, as a consequence, find it much more difficult than the less well adapted species to fit into new environments. They cannot take advantage of changes and are eliminated by more flexible competitors. In other words, perfect fitness to the present is not necessarily an advantage, and it may be a disadvantage when the need arises to evolve constructively into the future. This is particularly true of *Homo sapiens* and of his societies.

Toward Divine Madness

Complete adaptation taking the form of the contented cow would spell the end of human evolution, both physical and social. The best adapted peoples of history may have enjoyed physical contentment, but their lives have given only arrested civilizations. Our greatest blessings, says Socrates in *Phaedrus*, come to us by way of madness. Socrates did not mean, of course, that it is better to be mad than sane, sick than sound. Rather, he pleaded for a kind of madness making it possible for man to escape from the limitations and conventionalities of rational life and to function independently of social norms. It is a remarkable fact that Plato, the spokesman of rationalism, of submission to the social order, should have clearly and forcefully recognized the need for a type of behavior which he related to "madness" because he knew it to be dependent on faculties which are more or less uncontrolled and outside the realm of reason. These include, according to Plato, all the primeval forces symbolized in Greek mythology by Bacchus, Aphrodite, Eros, and the Muses; also those mysterious forces symbolized by Apollo which endow man to transcend himself as by a sort of prophetic gift.

I would not presume to express an opinion concerning the possibility of imparting to man, through the educational process, the kind of enlightened and inspired madness which would enable him to enlarge his contacts with the world and thus have a richer and happier life. But I might be permitted to express the view that this madness plays a large role in the mental operations through which man becomes creative and thus gives birth to the future or at least prepares the ground for its emergence. Experience reveals that the creator is by necessity somewhat dissatisfied, often misadapted, even a transgressor, and must transcend the conventions of his group and probably of his public self.

Most ancient societies empirically or consciously devised complex practices designed to supplement the submission to the group (adaptation) with an expression of the inner, so-called irrational components of the personality. The Greeks had systematized these practices in the Dionysiac ceremonies with the use of wine and of the religious dance, aimed at providing some relief from social discipline and perhaps also some enlargement of life under the guise of collective experience. For them, Dionysus was Lusios, "the Liberator." The aim of his cult was *ecstasis*, which could mean anything from "taking you out of yourself" to a profound alteration of personality.

Ecstasis is certainly more than liberation. It corresponds to an attitude essential for creation and also essential for true and deep happiness. Life in Lotus Land is comfortable and free of care, but man is not satisfied with this kind of gratification. Like Homer's Ulysses, he loves adventure; like Dante's Ulysses, he refuses to live as a beast, and he strives for fame and knowledge even though this leads him to disaster; Like Tennyson's Ulysses, he wants to follow knowledge beyond the utmost bound of human thought because he knows that some noble work may yet be done; like the modern Ulysses, he will not rest until he has reached the moon. Man is rooted in his animal past and must function in the present world, but knowledge of his animal origins and of his immediate environment is not sufficient as a basis to prepare him for the good life. Education must be concerned with larger values, and especially with visions of the future, because man fulfills himself only by transcending himself.

Contributors

To match our widened horizons in space, in population growth, and in the complexity of human organization and interaction, education requires wider horizons in its objectives, its methods of achieving them, and its understanding of the human material with which it works. It is to broaden our vistas with respect to the contributions of education to the comprehension by men of their changing, restless selves and their always-in-process societies that we begin this month with four papers drawn from the Distinguished Lecture Series which formed this spring a part of the celebration by Teachers College of its seventy-fifth anniversary.

Howard Mumford Jones, professor emeritus at Harvard and virtual dean of US humanists, discusses the relationship of the historical to the contemporary in the American experience. **Leo Rosten**, novelist, scenarist, and sociologist, is inventively concerned with some of the dimensions of the creative mind. **Richard Hoggart** (*The Uses of Literacy*), who teaches literature at the University of Leicester, analyzes some of the difficulties of democratic debate with which he became familiar through his experience on the Pilkington Committee, appointed by the Queen to study broadcasting in the United Kingdom. And the as yet only dimly comprehended capacities of men to adapt to novel conditions, and the relationship of these creative potentialities to the human sense of purpose, are the topics dealt with by **René Dubos**, the world-reknowned biologist of the Rockefeller Institute, whose *The Dreams of Reason* and *The Torch of Life* should be read by all members of the educational fraternity.

The widening of our horizons of comprehension is demanded, of course, by many of the problems that beset us all around our little globe. The region that President Kennedy has called "the most critical area in the world," Latin America, is discussed for us this May by **Kenneth Holland**, president of the Institute for International Education, primarily from the point of view of intrahemispheric cooperation in higher education. Still closer to home is the embarrassing and troublesome issue of the education of the American Indian, a matter that most of us would ignore if ignoring it would somehow make it go away. We are reminded of our obligations here with helpful and informative force by **Murray Wax**, an anthropologist at Emory University, who has just returned from working in the Dakotas with the Oglala Sioux.

In a somewhat different vein, we seem to live in a state of perpetual economic crisis, but little of our educational effort anywhere in the world seems effectively geared to increasing our economic literacy. This curiously paradoxical state of affairs is considered here by **Lewis E. Wagner** and **Lawrence E. Metcalf**, both of the University of Illinois, who have been leaders in the work begun by the Committee for Economic Development and the National Task Force on Economic Education.

More technically but every bit as relevantly, **John Carroll**, a highly esteemed educational psychologist from Harvard's Graduate School of Education, presents a new model of the school-learning process, eventually to appear as a book prepared at the request of James B. Conant; and **Lee J. Cronbach**, a past-president of the American Psychological Association and a professor at the University of Illinois, discusses the application of testing and evaluation procedures for the special purpose of improving specific courses.

A grand good summer to all!

LEE J. CRONBACH
University of Illinois

Course improvement through evaluation

THE NATIONAL INTEREST in improving education has generated several highly important projects to improve curricula, particularly at the secondary-school level. In conferences of directors of "course content improvement" programs sponsored by the National Science Foundation, questions about evaluation are frequently raised.[1] Those who inquire about evaluation have various motives, ranging from sheer scientific curiosity about classroom events to a desire to assure a sponsor that money has been well spent. While the curriculum developers sincerely wish to use the skills of evaluation specialists, I am not certain that they have a clear picture of what evaluation can do and should try to do. And, on the other hand, I am becoming convinced that some techniques and habits of thought of the evaluation specialist are ill suited to current curriculum studies. To serve these studies, what philosophy and methods of evaluation are required? And particularly, how must we depart from the familiar doctrines and rituals of the testing game?

Programmatic Decisions

To draw attention to its full range of functions, we may define "evaluation" broadly as the *collection and use of information to make decisions about an educational program.* The program may be a set of instructional materials distributed nationally, the instructional activities of a single school, or the educational experiences of a single pupil. Many types of decisions are to be made, and many varieties of information are useful. It becomes immediately apparent that evaluation is a diversified activity and that no one set of principles will suffice for all situations. But measurement specialists have so concentrated upon one process—the preparation of pencil-and-paper achievement tests for assigning scores to individual pupils—that the principles pertinent to that process have somehow become enshrined as *the* principles of evaluation. "Tests," we are told, "should fit the content of the curriculum." Also, "only those evaluation procedures should be used that yield reliable scores." These and other hallowed principles are not entirely appropriate to evaluation for course improvement. Before proceeding to support this contention, I wish to distinguish among purposes of evaluation and to relate them to historical developments in testing and curriculum making.

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[1] My comments on these questions, and on certain more significant questions that *should* have been raised, have been greatly clarified by the reactions of several of these directors and of my colleagues in evaluation to a draft of this paper. J. Thomas Hastings and Robert Heath have been especially helpful. What I voice, however, are my personal views, deliberately more provocative than "authoritative." —LJC

We may separate three types of decisions for which evaluation is used:

1. Course improvement: deciding what instructional materials and methods are satisfactory and where change is needed.
2. Decisions about individuals: identifying the needs of the pupil for the sake of planning his instruction, judging pupil merit for purposes of selection and grouping, acquainting the pupil with his own progress and deficiencies.
3. Administrative regulation: judging how good the school system is, how good individual teachers are, etc.

Course improvement is set apart by its broad temporal and geographical reference; it involves the modification of recurrently used materials and methods. Developing a standard exercise to overcome a misunderstanding would be course improvement, but deciding whether a certain pupil should work through that exercise would be an individual decision. Administrative regulation likewise is local in effect, whereas an improvement in a course is likely to be pertinent wherever the course is offered.

It was for the sake of course improvement that systematic evaluation was first introduced. When that famous muckraker Joseph Rice gave the same spelling test in a number of American schools, and so gave the first impetus to the educational testing movement, he was interested in evaluating a curriculum. Crusading against the extended spelling drills that then loomed large in the school schedule—"the spelling grind"—Rice collected evidence of their worthlessness so as to provoke curriculum revision. As the testing movement developed, however, it took on a different function.

The Turning Tides

The greatest expansion of systematic achievement testing occurred in the 1920s. At that time, the content of any course was taken pretty much as established and beyond criticism save for small shifts of topical emphasis. At the administrator's direction, standard tests covering the curriculum were given to assess the efficiency of the teacher or the school system. Such administrative testing fell into disfavor when used injudiciously and heavyhandedly in the 1920s and 1930s. Administrators and accrediting agencies fell back upon descriptive features of the school program in judging adequacy. Instead of collecting direct evidence of educational impact, they judged schools in terms of size of budget, student-staff ratio, square feet of laboratory space, and the number of advanced credits accumulated by the teacher. This tide, it appears, is about to turn. On many university campuses, administrators wanting to know more about their product are installing "operations research offices." Testing directed toward quality control seems likely to increase in the lower schools as well, as is most forcefully indicated by the statewide testing recently ordered by the California legislature.

After 1930 or thereabouts, tests were given almost exclusively for judgments about individuals—to select students for advanced training, to assign marks within a class, and to diagnose individual competenses and deficiencies. For any such decisions, one wants precise and valid comparisons of one individual with other individuals or with a standard. Much of test theory and test technology has been concerned with making measurements precise. Important though precision is for most decisions about individuals, I shall argue that in evaluating courses we need not struggle to obtain precise scores for individuals.

While measurers have been well content with the devices used to make scores precise, they have been less complacent about validity. Prior to 1935, the pupil was examined mostly on factual knowledge and mastery of fundamental skills. Tyler's research and writings of that period developed awareness that higher mental processes are not evoked by simple factual tests, and that instruction that promotes factual knowledge may not promote—indeed, may interfere with—other more important educational outcomes. Tyler, Lindquist, and their students demonstrated that tests can be designed to measure such general educational outcomes as ability to comprehend scientific method. Whereas a student can prepare for a factual test only through a course of study that includes the facts tested, many different courses of study may promote the same *general* understandings and attitudes. In evaluating today's new curricula, it will clearly be important to appraise the student's general educational growth, which curriculum developers say is more important than mastery of the specific lessons presented. Note, for example, that the Biological Sciences Curriculum Study offers three courses with substantially different "subject matter" as alternative routes to much the same educational ends.

Although some instruments capable of measuring general outcomes were prepared during the 1930s, they were never very widely employed. The prevailing philosophy of the curriculum, particularly among "progressives," called for developing a program to fit local requirements, capitalizing on the capacities and experiences of local pupils. The faith of the 1920s in a "standard" curriculum was replaced by a faith that the best learning experience would result from teacher-pupil planning in each classroom. Since each teacher or each class could choose different content and even different objectives, this philosophy left little place for standard testing.

Tests as Training

Many evaluation specialists came to see test development as a strategy for training the teacher in service, so that the process of test making came to be valued more than the test—or the test data—that resulted. The following remarks by Bloom *(2)* are representative of a whole school of thought: [2]

> The criterion for determining the quality of a school and its educational functions would be the extent to which it achieves the objectives it has set for itself. . . . Our experiences suggest that unless the school has translated the objectives into specific and operational definitions, little is likely to be done about the objectives. They remain pious hopes and platitudes. . . . Participation of the teaching staff in selecting as well as constructing evaluation instruments has resulted in improved instruments on one hand and, on the other hand, it has resulted in clarifying the objectives of instruction and in making them real and meaningful to teachers. . . . When teachers have actively participated in defining objectives and in selecting or constructing evaluation instruments, they return to the learning problems with great vigor and remarkable creativity. . . . Teachers who have become committed to a set of educational objectives which they thoroughly understand respond by developing a variety of learning experiences which are as diverse and as complex as the situation requires.

Thus, "evaluation" becomes a local and beneficial teacher-training activity. The benefit is attributed to thinking about what data to collect. Little is said about the actual use of test results; one has the impression that when test-making ends, the test itself is forgotten. Certainly, there is little enthusiasm for refining tests so that they can be used in other schools, for to do so would be to rob those teachers of the benefits of working out their own objectives and instruments.

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[2] Elsewhere, Bloom's paper discusses evaluation for the new curricula. Attention may also be drawn to Tyler's highly pertinent paper *(6)*.

Bloom and Tyler describe both curriculum making and evaluation as integral parts of classroom instruction, which is necessarily decentralized. This outlook is far from that of "course improvement." The current national curriculum studies assume that curriculum making can be centralized. They prepare materials to be used in much the same way by teachers everywhere. It is assumed that having experts draft materials, and revising these after tryout, produces better instructional activities than the local teacher would be likely to devise. In this context, it seems wholly appropriate to have most tests prepared by a central staff and to have results returned to that staff to guide further course improvement.

When evaluation is carried out in the service of course improvement, the chief aim is to ascertain what effects the course has—that is, what changes it produces in pupils. This is not to inquire merely whether the course is effective or ineffective. Outcomes of instruction are multidimensional, and a satisfactory investigation will map out the effects of the course along these dimensions separately. To agglomerate many types of postcourse performance into a single score is a mistake, because failure to achieve one objective is masked by success in another direction. Moreover, since a composite score embodies (and usually conceals) judgments about the importance of the various outcomes, only a report that treats the outcomes separately can be useful to educators who have different value hierarchies.

The greatest service evaluation can perform is to identify aspects of the course where revision is desirable. Those responsible for developing a course would like to present evidence that their course is effective. They are intrigued by the idea of having an "independent testing agency" render a judgment on their product. But to call in the evaluator only upon the completion of course development, to confirm what has been done, is to offer him a menial role and to make meager use of his services. To be influential in course improvement, evidence must become available midway in curriculum development, not in the home stretch, when the developer is naturally reluctant to tear open a supposedly finished body of materials and techniques. Evaluation, used to improve the course while it is still fluid, contributes more to improvement of education than evaluation used to appraise a product already placed on the market.

Effects and Effectiveness

Insofar as possible, evaluation should be used to understand how the course produces its effects and what parameters influence its effectiveness. It is important to learn, for example, that the outcome of programmed instruction depends very much upon the attitude of the teacher; indeed, this may be more important than to learn that on the average such instruction produces slightly better or worse results than conventional instruction.

Hopefully, evaluation studies will go beyond reporting on this or that course and help us to understand educational learning. Such insight will, in the end, contribute to the development of all courses rather than just the course under test. In certain of the new curricula, there are data to suggest that aptitude measures correlate much less with end-of-course achievement than they do with achievement on early units *(4)*. This finding is not well confirmed, but it is highly significant if true. If it is true for the new curricula and only for them, it has one implication; if the same effect appears in traditional courses, it means something else. Either way, it provides food for thought for teachers, counselors, and theorists. Evaluation studies should generate knowledge about the nature of the abilities that constitute educational goals. Twenty years after the Eight-Year Study of the Progressive Education Association, its testing techniques are in good repute, but we still know very little about what these instruments measure. Consider "Application of Principles in Science." Is this in any sense a unitary ability? Or has the able student only mastered certain principles one by one? Is the ability demonstrated on a test of this sort more prognostic of any later achievement than is factual knowledge? Such questions ought to receive substantial attention, although to the makers of any one course they are of only peripheral interest.

The aim to compare one course with another should not dominate plans for evaluation. To be sure, decision makers have to choose between courses, and any evaluation report will be interpreted in part comparatively. But formally designed experiments, pitting one course against another, are rarely definitive enough to justify their cost. Differences between average test scores resulting from different courses are usually small relative to the wide differences among and within classes taking the same course. At best, an experiment never does more than compare the present version of one course with the present version of another. A major effort to bring the losing contender nearer to perfection would be very likely to reverse the verdict of the experiment.

Any failure to equate the classes taking the competing courses will jeopardize the interpretation of an experiment—and such failures are almost inevitable. In testing a drug, we know that valid results cannot be obtained without a double-blind control in which the doses for half the subjects are inert placebos; the placebo and the drug look alike, so that neither doctor nor patient knows who is receiving medication. Without this control, the results are useless even when the state of the patient is checked by completely objective indices. In an educational experiment, it is difficult to keep pupils unaware that they are an experimental group. And it is quite impossible to neutralize the biases of the teacher as those of the doctor are neutralized in the double-blind design. It is thus never certain whether any observed advantage is attributable to the educational innovation as such, or to the greater energy that teachers and students put forth when a method is fresh and "experimental." Some have contended that any course, even the most excellent, loses much of its potency as soon as success enthrones it as "the traditional method."

Weakness of Comparisons

Since group comparisons give equivocal results, I believe that a formal study should be designed primarily to determine the post-course performance of a well described group with respect to many important objectives and side effects. Ours is a problem like that of the engineer examining a new automobile. He can set himself the task of defining its performance characteristics and its dependability. It would be merely distracting to put his question in the form, "Is this car better or worse than the competing brand?" Moreover, in an experiment where the treatments compared differ in a dozen respects, no understanding is gained from the fact that the experiment shows a numerical advantage in favor of the new course. No one knows which of the ingredients is responsible for the advantage. More analytic experiments are much more useful than field trials applying markedly dissimilar treatments to different groups. Small-scale, well controlled studies can profitably be used to compare alternative versions of the same course; in such a study, the differences between treatments are few enough and well enough defined that the results have explanatory value.

The three purposes—course improvement, decisions about individuals, and administrative regulation—call for measurement procedures having somewhat different qualities. When a test will be used to make an administrative judgment on the individual teacher, it is necessary to measure thoroughly and with conspicuous fairness; such testing, if it is to cover more than one outcome, becomes extremely time consuming. In judging a course, however, one can make satisfactory interpretations from data collected on a sampling basis, with no pretense of measuring thoroughly the accomplishments of any one class. A similar point is to be made about testing for decisions about individuals. A test of individuals must be conspicuously fair and extensive enough to provide a dependable score for each person. But if the performance will not influence the fate of the individual, we can ask him to perform tasks for which the course has not directly prepared him, and we can use techniques that would be prohibitively expensive if applied in a manner thorough enough to measure each person reliably.

Evaluation is too often visualized as the administration of a formal test, an hour or so in duration, at the close of a course. But there are many other methods for examining pupil performance, and pupil attainment is not the only basis for appraising a course.

It is quite appropriate to ask scholars whether the statements made in the course are consistent with the best contemporary knowledge. This is a sound and even a necessary procedure. One may go on to evaluate the pedagogy of the new course by soliciting opinions, but here there is considerable hazard. If the opinions are based on some preconception about teaching method, the findings will be controversial and very probably misleading. There are no theories of pedagogy so well established that one can say, without tryout, what will prove educative.

Systematic Observation

One can accept the need for a pragmatic test of the curriculum and still employ opinions as a source of evidence. During the tryout stages of curriculum making, one relies heavily on the teachers' reports of pupil accomplishment—"Here they had trouble"; "This they found dull"; "Here they needed only half as many exercises as were provided," etc. This is behavior observation even though unsystematic, and it is of great value. The reason for shifting to systematic observation is that this is more impartial, more public, and sometimes more penetrating. While I bow to the historian or mathematician as a judge of the technical soundness of course content, I do not agree that the experienced history or mathematics teacher who tries out a course gives the best possible judgment on its effectiveness. Scholars have too often deluded themselves about their effectiveness as teachers—particularly, have they too often accepted parroting of words as evidence of insight—for their unaided judgment to be trusted. Systematic observation is costly, and introduces some delay between the moment of teaching and the feedback of results. Hence, systematic observation will never be the curriculum developer's sole source of evidence. Systematic data collection becomes profitable in the intermediate stages of curriculum development, after the more obvious bugs in early drafts have been dealt with.

The approaches to evaluation include process studies, proficiency measures, attitude measures, and follow-up studies. A process study is concerned with events taking place in the classroom, proficiency and attitude measures with changes observed in pupils, and follow-up studies with the later careers of those who participated in the course.

The follow-up study comes closest to observing ultimate educational contributions, but the completion of such a study is so far removed in time from the initial instruction that it is of minor value in improving the course or explaining its effects. The follow-up study differs strikingly from the other types of evaluation study in one respect. I have already expressed the view that evaluation should be primarily concerned with the effects of the course under study rather than with comparisons of courses. That is to say, I would emphasize departures of attained results from the ideal, differences in apparent effectiveness of different parts of the course, and differences from item to item; all these suggest places where the course could be strengthened. But this view cannot be applied to the follow-up study, which appraises effects of the course as a whole and which has very little meaning unless outcomes can be compared with some sort of base rate. Suppose we find that 65 per cent of the boys graduating from an experimental curriculum enroll as scientific and technical majors in college. We cannot judge whether this is a high or low figure save by comparing it with the rate among boys who have not had the course. In a follow-up study, it is necessary to obtain data on a control group equated at least crudely to the experimental cases on the obvious demographic variables.

Despite the fact that such groups are hard to equate and that follow-up data do not tell much about how to improve the course, such studies should have a place in research on the new curricula, whose national samples provide unusual opportunity for follow-up that can shed light on important questions. One obvious type of follow-up study traces the student's success in a college course founded upon the high-school course. One may examine the student's grades or ask him what topics in the college course he found himself poorly prepared for. It is hoped that some of the new science and mathematics courses will arouse greater interest than usual among girls; whether this hope is well founded can be checked by finding out what majors and what electives these ex-students pursue in college. Career choices likewise merit attention. Some proponents of the new curricula would like to see a greater flow of talent into basic science as distinct from technology, whereas others would regard this as potentially disastrous; but no one would regard facts about this flow as lacking significance.

Measuring Meanings

Attitudes are prominent among the outcomes with which course developers are concerned. Attitudes are meanings or beliefs, not mere expressions of approval or disapproval. One's attitude toward science includes ideas about the matters on which a scientist can be an authority, about the benefits to be obtained from moon shots and studies of monkey mothers, and about depletion of natural resources. Equally important is the match between self-concept and concept of the field: What roles does science offer a person like me? Would I want to marry a scientist? And so on. Each learning activity also contributes to attitudes that reach far beyond any one subject, such as the pupil's sense of his own competence and desire to learn.

Attitudes can be measured in many ways; the choices revealed in follow-up studies, for example, are pertinent evidence. But measurement usually takes the form of direct or indirect questioning. Interviews, questionnaires, and the like are quite valuable when not trusted blindly. Certainly, we should take seriously any *un*desirable opinion expressed by a substantial proportion of the graduates of a course (*e.g.*, the belief that the scientist speaks with peculiar authority on political and ethical questions, or the belief that mathematics is a finished subject rather than a field for current investigation).

Attitude questionnaires have been much criticized because they are subject to distortion, especially where the student hopes to gain by being less than frank. Particularly if the questions are asked in a context far removed from the experimental course, the returns are likely to be trustworthy. Thus, a general questionnaire administered through homerooms (or required English courses) may include questions about liking for various subjects and activities; these same questions administered by the mathematics teacher would give much less trustworthy data on attitude toward mathematics. While students may give reports more favorable than their true beliefs, this distortion is not likely to be greater one year than another, or greater among students who take an experimental course than among those who do not. In group averages, many distortions balance out. But questionnaires insufficiently valid for individual testing can be used in evaluating curricula, both because the student has little motive to distort and because the evaluator is comparing averages rather than individuals.

Process and Proficiency

For measuring proficiency, techniques are likewise varied. Standardized tests are useful. But for course evaluation it makes sense to assign *different* questions to different students. Giving each student in a population of 500 the same test of 50 questions will provide far less information to the course developer than drawing for each student 50 questions from a pool of, say, 700. The latter plan determines the mean success of about 75 representative students on every one of the 700 items; the former reports on only 50 items (*5*). Essay tests and open-ended questions, generally too expensive to use for routine evaluation, can profitably be employed to appraise certain abilities. One can go further and observe individuals or groups as they attack a research problem in the laboratory or work through some other complex problem. Since it is necessary to test only a representative sample of pupils, costs are not as serious a consideration as in routine testing. Additional aspects of proficiency testing will be considered below.

Process measures have especial value in showing how a course can be improved because they examine what happens during instruction. In the development of programmed instructional materials, for example, records are collected showing how many pupils miss each item presented; any piling up of errors implies a need for better explanation or a more gradual approach to a difficult topic. Immediately after showing a teaching film, one can interview students, perhaps asking them to describe a still photograph taken from the film. Misleading presentations, ideas given insufficient emphasis, and matters left unclear will be identified by such methods. Similar interviews can disclose what pupils take away from a laboratory activity or a discussion. A process study may turn attention to what the teacher does in the classroom. In those curricula that allow choice of topics, for example, it is worthwhile to find out which topics are chosen and how much time is allotted to each. A log of class activities (preferably recorded by a pupil rather than the teacher) will show which of the techniques suggested in a summer institute are actually adopted and which form "part of the new course" only in the developer's fantasies.

I have indicated that I consider item data to be more important than test scores. The total score may give confidence in a curriculum or give rise to discouragement, but it tells very little about how to produce further improvement. And, as Ferris (*4*) has noted, such scores are quite likely to be mis- or overinterpreted. The score on a single item, or on a problem that demands several responses in succession, is more likely than the test score to suggest how to alter the presentation. When we accept item scores as useful, we need no longer think of evaluation as a one-shot, end-of-year operation. Proficiency can be measured at any moment, with particular interest attaching to those items most related to the recent lessons. Other items calling for general abilities can profitably be administered repeatedly during the course (perhaps to different random samples of pupils) so that we can begin to learn when and from what experiences change in these abilities comes.

In course evaluation, we need not be much concerned about making measuring instruments fit the curriculum. However startling this declaration may seem, and however contrary to the principles of evaluation for other purposes, this must be our position if we want to know what changes a course produces in the pupil. An ideal evaluation would include measures of all the types of proficiency that might reasonably be desired in the area in question, not just the selected outcomes to which this curriculum directs substantial attention. If you wish only to know how well a curriculum is achieving *its* objectives, you fit the test to the curriculum; but if you wish to know how well the curriculum is serving the national interest, you measure all outcomes that might be worth striving for. One of the new mathematics courses may disavow any attempt to teach numerical trigonometry, and indeed, might discard nearly all computational work. It is still perfectly reasonable to ask how well graduates of the course can compute and can solve right triangles. Even if the course developers went so far as to contend that computational skill is no proper objective of secondary instruction, they will encounter educators and laymen who do not share their view. If it can be shown that students who come through the new course are fairly proficient in computation despite the lack of direct teaching, the doubters will be reassured. If not, the evidence makes clear how much is being sacrificed. Similarly, when the biologists offer alternative courses emphasizing microbiology and ecology, it is fair to ask how well the graduate of one course can understand issues treated in the other. Ideal evaluation in mathematics will collect evidence on all the abilities toward which a mathematics course might reasonably aim; likewise in biology, English, or any other subject.

Ferris states that the ACS Chemistry Test, however well constructed, is inadequate for evaluating the new CBA and CHEM programs because it does not cover their objectives. One can agree with this without regarding the ACS test as inappropriate to use with these courses. It is important that this test not stand *alone,* as the sole evaluation device. It will tell us something worth knowing, namely, just how much "conventional" knowledge the new curriculum does or does not provide. The curriculum developers deliberately planned to sacrifice some of the conventional attainments and have nothing to fear from this measurement, competently interpreted (particularly if data are examined item by item).

Security, Content, Terms

The demand that tests be closely matched to the aims of a course reflects awareness that examinations of the usual sort "determine what is taught." If questions are known in advance, students give more attention to learning their answers than to learning other aspects of the course. This is not necessarily detrimental. Wherever it is critically important to master certain content, the knowledge that it will be tested produces a desirable concentration of effort. On the other hand, learning the answer to a set question is by no means the same as acquiring understanding of whatever topic that question represents. There is, therefore, a possible advantage in using "secure" tests for course evaluation. Security is achieved only at a price: One must prepare new tests each year and consequently cannot make before-and-after comparisons with the same items. One would hope that the use of different items with different students, and the fact that there is less incentive to coach when no judgment is to be passed on the pupils and the teachers, would make security a less critical problem.

The distinction between factual tests and tests of higher mental processes, as elaborated for example in the *Taxonomy of Educational Objectives*, is of some value in planning tests, although classifying items as measures of knowledge, application, original problem solving, etc., is difficult and often impossible. Whether a given response represents rote recall or reasoning depends upon how the pupil has been taught, not solely upon the question asked. One may, for example, describe a biological environment and ask for predictions regarding the effect of a certain intervention. Students who have never dealt with ecological data will succeed or fail according to their general ability to reason about complex events; those who have studied ecological biology will be more likely to succeed, reasoning from specific principles; and those who have lived in such an ecology or read about it may answer successfully on the basis of memory. We rarely, therefore, will want to test whether a student "knows" or "does not know" certain material. Knowledge is a matter of degree. Two persons may be acquainted with the same facts or principles, but one will be more expert in his understanding, better able to cope with inconsistent data, irrelevant sources of confusion, and apparent exceptions to the principle. To measure intellectual competence is to measure depth, connectedness, and applicability of knowledge.

Too often, test questions are course-specific, stated in such a way that only the person who has been specifically taught to understand what is being asked for can answer the question. Such questions can usually be identified by their use of conventions. Some conventions are commonplace, and we can assume that all the pupils we test will know them. But a biology test that describes a metabolic process with the aid of the $\rightleftharpoons$ symbol presents difficulties for students who can think through the scientific question about equilibrium but are unfamiliar with the symbol. A trigonometry problem that requires use of a trigonometric table is unreasonable, unless we want to test familiarity with the conventional names of functions. The same problem in numerical trigonometry can be cast in a form clear to the average pupil *entering* high school; if necessary, the tables of functions can be presented along with a comprehensible explanation. So stated, the problem becomes course-independent. It is fair to ask whether graduates of the experimental course can solve such problems, not previously encountered, whereas it is pointless to ask whether they can answer questions whose language is strange to them. To be sure, knowledge of certain terminology is a significant objective of instruction, but for course evaluation, testing of terminology should very likely be separated from testing of other understandings. To appraise understanding of processes and relations, the fair question is one comprehensible to a pupil who has not taken the course. This is not to say that he should know the answer or the procedure to follow in attaining the answer, but he should understand what he is being asked. Such course-independent questions can be used as standard instruments to investigate any instructional program.

Pupils who have not studied a topic will usually be less facile than those who have studied it. Graduates of my hypothetical mathematics course will take longer to solve trigonometry problems than will those who have studied trig. But speed and power should not be confused; in intellectual studies, power is almost always of greater importance. If the course equips the pupil to deal correctly, even though haltingly, with a topic not studied, we can expect him to develop facility later when that topic comes before him frequently.

Two Types of Transfer

The chief objective in many of the new curricula seems to be to develop aptitude for mastering new materials in the field. A biology course cannot cover all valuable biological content, but it may reasonably aspire to equip the pupil to understand descriptions of unfamiliar organisms, to comprehend a new theory and the reasoning behind it, and to plan an experiment to test a new hypothesis. This is transfer of learning. It has been insufficiently recognized that there are two types of transfer. The two types shade into one another, being arranged on a continuum of immediacy of effect; we can label the more immediate pole *applicational transfer*, and speak of slower-acting effects as *gains in aptitude* (*3*).

Nearly all educational research on transfer has tested immediate performance on a partly new task. We teach pupils to solve equations in x, and include in the test equations stated in a or z. We teach the principles of ecological balance by referring to forests, and as a transfer test, ask what effect pollution will have on the population of a lake. We describe an experiment not presented in the text, and ask the student to discuss possible interpretations and needed controls. Any of these tests can be administered in a short time. But the more significant type of transfer may be the increased ability to learn in a particular field. There is very likely a considerable difference between the ability to draw conclusions from a neatly finished experiment, and the ability to tease insight out of the disorderly and inconsistent observations that come with continuous laboratory work on a problem. The student who masters a good biology course may become better able to comprehend certain types of theory and data, so that he gains more from a subsequent year of study in ethnology; we do not measure this gain by testing his understanding of short passages in ethnology. There has rarely been an appraisal of ability to work through a problem situation or a complex body of knowledge over a period of days or months. Despite the practical difficulties that attend an attempt to measure the effect of a course on a person's subsequent learning, such "learning to learn" is so important that a serious effort should be made to detect such effects and to understand how they may be fostered.

The techniques of programed instruction may be adapted to appraise learning ability. One may, for example, test the student's rate of mastery of a self-contained, programed unit on the physics of heat or some other topic not studied. If the program is truly self-contained, every student can master it, but the one with greater scientific comprehension will hopefully make fewer errors and progress faster. The program can be prepared in several logically complete versions, ranging from one with very small "steps" to one with minimal internal redundancy, on the hypothesis that the better educated student could cope with the less redundant program. Moreover, he might prefer its greater elegance.

Toward Deeper Understanding

Old habits of thought and long established techniques are poor guides to the evaluation required for course improvement. Traditionally, educational measurement has been chiefly concerned with producing fair and precise scores for comparing individuals. Educational experimentation has been concerned with comparing score averages of competing courses. But course evaluation calls for description of outcomes. This description should be made on the broadest possible scale, even at the sacrifice of superficial fairness and precision.

Course evaluation should ascertain what changes a course produces and should identify aspects of the course that need revision. The outcomes observed should include general outcomes ranging far beyond the content of the curriculum itself—attitudes, career choices, general understandings and intellectual powers, and aptitude for further learning in the field. Analysis of performance or single items or types of problems is more informative than analysis of composite scores. It is not necessary or desirable to give the same test to all pupils; rather, as many questions as possible should be given, each to a different, moderate sized sample of pupils. Costly techniques, such as interviews and essay tests, can profitably be applied to samples of pupils, whereas testing everyone would be out of the question.

Asking the right questions about educational outcomes can do much to improve educational effectiveness. Even if the right data are collected, however, evaluation will have contributed too little if it only places a seal of approval on certain courses and casts others into disfavor. Evaluation is a fundamental part of curriculum development, not an appendage. Its job is to collect facts the course developer can and will use to do a better job, and facts from which a deeper understanding of the educational process will emerge.

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Issues & Items

The Big Degree Boom. Let no man doubt it: Few markets are as bullish as the market in college degrees. That the US has become increasingly a nation of college-goers is borne out by the fact that in 1919-1920, 48,622 people earned bachelor's or first professional degrees, whereas in 1959-1960, that figure had increased eightfold to 394,889 and is still rising. This bulge at the bottom of the degree ladder hardly compares, however, with the data on master's degrees and doctorates or their equivalents. When the present century was only two decades old, the number completing the master's level was 4,279; those taking doctorates totaled only 615. In 1959-1960, the respective figures were 74,497 and 9,829, representing 18 times as many degree-earners in the first instance and 16 times as many at the doctoral pinnacle of our formal educational system.

This rather startling information suggests that we are not only sending Americans to college in unprecedented numbers, but that our emphasis on advanced training and education has, proportionately, increased even more sharply. Such a trend shows clearly in the changing numbers of degree-granting institutions during the past 12 years. In 1948-1949, the American Council on Education officially listed 1,295 such colleges and universities; by 1960-1961, the institutional census had swollen to 1,415, an increment of 120 or, on the average, about 10 each year. But in the same period, the count of colleges offering the baccalaureate or first professional degree as their highest degree *declined* from 834 to 741. In striking contrast, institutions offering the higher degrees leaped by almost the same percentages into true bigness. Those granting MAs or their equivalent rose from 307 to 455 (67 per cent), and those offering doctoral-level training jumped from 154 to 219 (70 per cent).

Leading the list by subject matter in this big degree boom is teacher education and the preparation of people generally for the various professions associated with schools and schooling. Recent statistics indicate that 22 per cent of the bachelor's degrees, 46 per cent of the master's, and 17 per cent of the doctorates earned in US colleges and universities are in the field of education. At the doctoral level, more degrees are awarded in the natural sciences (but in no other discipline); otherwise, degrees in education outnumber those in all other areas of study.

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Son of Westbrook Pegler. Remember the technique of keeping a successful grade-B movie subject alive by continuing its hero unto a second generation? The sequence of "Tarzan," "Return of Tarzan," and "Son of Tarzan" is a good example. Having always had a sneaking admiration for the device (as for Tarzan himself), we rather hate to see it corrupted.

The corruption lies in a variation on the theme of heroic inheritance apparent in two pieces of mail that simultaneously arrived late last February. One was a copy of the *American Opinion Magazine*, the official organ of the John Birch Society; the other was a copy of a speech by one Jenkin Lloyd Jones, a columnist for the Tulsa, Oklahoma, *Tribune*, the text of whose address was being circulated by a business organization.

American Opinion had a new contributor—none other than Westbrook Pegler, retired some time ago from the Hearst newspapers, where he had for years found a tree on which to stand while beating his breast and uttering his ape-like cries of limitless hatred. The voice coming out of the Birchite jungle squeaks a bit more, but the anthropoid language and emotional lability are the same. Under the title of "*La Boca Grande*" (The Big Mouth), Pegler chattered with virulence about a dead person, and a woman at that—Eleanor Roosevelt. Having proudly loathed her through her life, there is nothing novel in Pegler's assault now that she is gone; but it is a crabbed, hysterical, and deteriorated Tarzan indeed who pokes futilely at such a heterogeneous clutch of opponents as the New York *Herald-Tribune*, Clare Booth Luce, and George Sokolsky merely because they recognized some positive attributes in Mrs. Roosevelt's character and work. For instance, after quoting, with obvious repugnance, Sokolsky's comment that Mrs. Roosevelt's "contributions to American life in her generation loom large," Pegler darts in with, "He might have added, 'so do those of Alger Hiss,' whom she admired."

But if Tarzan no longer can swing from branch to branch in vigorous though paranoid hatred, he has a spiritual heir to maintain the tradition; and one of the main targets of the son's fists and fangs is one that frequently provoked the father's gibbering onslaught in now bygone days—American education. Mr. Jenkin Jones has the authentic Peglerian touch, and since it is likely to be a long time before he has to crawl off to the Lost World of the John Birch Society, he is worth listening to at some length:

> We are now at the end of the third decade of the national insanity known as "progressive education". . . . With what results? We have watched juvenile delinquency climb steadily. . . . We have decided that sin is largely imaginary. We have become enamored with "behavioristic psychology" (which holds) that a man is a product of his heredity and his environment. . . . Well, the theory that misbehavior can be cured by pulling down tenements and erecting in their places elaborate public housing is not holding water. The crime rates continue to rise along with our outlays for social services. . . . I believe that some of my starry-eyed friends are kidding themselves when they pretend that every planeload of Puerto Ricans that puts down at Idlewild is equivalent in potential to every shipload of Pilgrims that put into old Plymouth. Nations are built by people capable of great energy and self-discipline. I never heard of one put together by cha-cha-cha. . . . I am fed up to here with the educationalists and psuedo-social scientists who have underrated our potential as a people. . . . The grandchildren of the kids who used to weep because the Little Match Girl froze to death now feel cheated if she isn't slugged, raped, and thrown into a Bessemer converter.

If Pegler's voice now pipes and whistles in his sound, Mr. Jones's chest is quite a resonator, and his catalogue of hates is already almost as long as his ideological father's. It includes TV, the schools, Puerto Ricans, exponents of public housing, "behaviorists," the administrators of social services, and our *monstrous* children, to name only a few entries in his Black Book. It doesn't matter that both his history and his psychology are more than a bit shaky, or that his logic is obviously impervious to such niceties as the fallacy of *post hoc ergo propter hoc* or the distinction between correlational and causal relationships. Mr. Jones, besides his voice, has two things very much in his favor—backing and a point. The power of a syndicated column is not to be easily gainsaid, especially when businessmen reprint the writer's stuff for still wider dissemination and encouragingly jingle coins to reinforce his outpourings. And he touches on a sensitive nerve. In some quarters, not entirely unfrequented by "educationalists" and social scientists, there *has* been a neglect of such notions as those of personal responsibility and the reality of moral principles; occasionally, the idea of "permissiveness" and the concept of determinism have been allowed at least to sound like excuses for delinquency, slovenly work, and discourtesy.

If most of us are to find something other than a cross between nausea and horror in "Son of Westbrook Pegler," we will need to attend less to the fact that he flirts with racism and more to the beams in our own eyes that give Mr. Jones and his kind their odd justification and peculiar persuasiveness.

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Monthly Miscellany. Turkey's first high school of science is scheduled to open in the autumn of 1964 in Ankara. Financed by a grant of $1.1 million by the Ford Foundation, the school will offer specialized training in mathematics, physics, chemistry, and biology to a student body of 300 selected on the basis of nationwide examinations. Florida State University is helping in the establishment of the school, and Dr. Stanley Marshall, head of the FSU Department of Science Education, will serve as its codirector along with a not-yet-named Turkish scientist. . . . The family as Western civilization has known it is undergoing a dramatic transformation, according to anthropologist Margaret Mead, speaking last March at the Seventy-Fifth Anniversary Conference of the Child Study Association. As she perceives the situation, three major forces are destroying the "nuclear," two-generation family of Western tradition. One is the frequency of working mothers, homes with only one parent, and young couples attempting to rear children under difficult economic conditions. A second is the breakdown of the ability of parents to give youngsters clear moral direction in a world that is changing so rapidly. A third is that the rate of technological and social change has been so great that now it is children who are at home in the modern world; the family must be reorganized so that adults "can absorb their children's knowledge of space, satellites, the new mathematics, the oneness of this small planet on which we live." . . . With the obvious endorsement of the President, the US delegation to the UN has indicated to all the world America's worry about the population explosion. Richard N. Gardner, Deputy Assistant Secretary of State, noting that our global population is roughly three *billion* and is expected to double by the end of the century, said, "So long as we are concerned with the quality of life, we have no choice but to be concerned with the quantity of life." The phrase "birth control" was never used in US representations, but it is clear that if the UN is to become serious about population problems, it must also become serious about population control. It is already being strongly pressured in that direction by the Scandinavian countries, India, Pakistan, the UAR, Tunisia, and Japan. Although Ireland and Argentina are strongly opposed, opposition from other Roman Catholic countries like France, Spain, and Lebanon has been only moderate.

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A catalyst for inter-American higher education

EARLY THIS YEAR, North and South America talked to each other via the orbiting Relay I satellite, inaugurating a new era of communications between the countries of the western hemisphere. Secretary of State Dean Rusk and Brazilian Foreign Minister Hermes Lima took part in a 20-minute program in which the messages were bounced off the satellite. Lima said, "I am happy to realize that the Americas . . . are contributing through the research of scientists of one of their greatest countries to this giant step towards the unification of mankind."

On the same day, the State Department *Newsletter* published an interview with Ward P. Allen, an official of the Department's Latin American division. Mr. Allen reported that before leaving Guayaquil, Ecuador, where he had been Consul General, he had received a letter from a village on the edge of the jungle 60 miles to the east, asking for help in establishing a school for adults and children. The letter specifically requested a teacher's desk, portable blackboard, six wooden benches, three boxes of chalk, and 50 notebooks with pencils. It was signed with one name and 25 thumb prints.

Somewhere between these two extremes, high technological advancement and primitive illiteracy, lie the staggering problems of education in Latin America. If education is an essential part of economic, social, and political development, then those who are concerned with hemispheric progress—whether they be statesmen, administrators, or educators—must put a vigorous emphasis on helping to provide adequate educational facilities and to train the human resources of the Americas.

Labor Out of Hope

The problems of Latin American education at every level—elementary, secondary, and university—are all interrelated. Recently, there has been increased effort to improve educational standards at all levels. United States government agencies such as the former International Cooperation Administration (ICA) and the present Agency for International Development (AID) have been especially concerned with the educational needs of Latin America. Regional and international organizations like the Organization of American States and UNESCO, particularly in its Major Project for the Development of Primary Education and its regional surveys, continue to stress the importance of education in economic and social development.

It is also significant that among the

objectives of the Alliance for Progress, as set forth in its 1961 Charter of Punta del Este, is the elimination of adult illiteracy and, by 1970, the assurance of six years of primary education for every school-age child. Another Alliance goal is the expansion of vocational, technical, and higher educational facilities.

One of the less well known but interesting efforts toward the improvement of higher education in Latin America has been the work of the Council on Higher Education in the American Republics (CHEAR) which has been quietly but determinedly advancing educational relations and mutual understanding between North and Latin American leaders in higher education during the last five years. The Council was formed in the Spring of 1958, when the Carnegie Corporation of New York made a grant to the Institute of International Education and asked it to administer a program which could establish meaningful contacts between educators of North and Latin America. The Ford Foundation joined the Carnegie Corporation as a sponsoring agency in 1960.

Although it began as an informal discussion group, CHEAR has grown into an organization able to perform many functions in inter-American higher education, and many action projects have resulted from its deliberations. It has become the principal agency that provides continuing opportunities for university presidents and rectors from North and Latin America to exchange professional ideas, information, reactions, and requests for cooperation. Its objectives are accomplished primarily through a series of small annual conferences of selected Latin and North American educators who discuss problems of higher education in the hemisphere; through visits by participating educators to universities in North and Latin America; through seminars to study and make recommendations on major issues, and through the development and carrying out of educational projects designed to meet jointly determined educational needs and interests.

The program to improve communication among North and Latin American scholars was developed with the cooperation of Dr. Frederick Burkhardt, President of the American Council of Learned Societies. His paper, "Inter-American Scholarly Communications in the Humanities and Social Sciences," was translated into many languages and was given world-wide distribution among colleges and universities, corporations, foundations, scholarly publications, professional societies, and government agencies. It also stimulated a series of seminars organized by CHEAR that have brought together some 20 Latin and North American specialists with excellent results.

Some of the questions explored at these seminars have been how to improve library sciences and provide much needed textbooks in Latin America; how to strengthen and expand Latin American area study programs in US institutions and US study programs in Latin American universities; and how to stimulate and aid teaching and research in scientific and technological fields in Latin American universities. The methods of teaching sociology, economics, and the history of ideas in Latin American institutions have also been discussed, as has the subject of interdisciplinary education. The recommendations of several of the seminars have been translated into action.

Seminars for Progress

The seminar on Inter-American Library Science, held in Monticello, Illinois, in January, 1961, with the American Library Association, led to a survey of types of books and materials being produced by university presses. It was conducted by Professor August Fruge of UCLA and Professor Carlos Boach Garcia of Mexico. Following this, a study of the possibilities for producing instructional materials through commercial channels was made by Franklin Publications. Extension of the activities of this non-profit organization into Latin America seems to be assured. Other publishing firms and foundations are also interested now in producing and distributing books and other learning materials to Latin American universities. In the last year, CHEAR has been called upon frequently to advise and confer with such publishers as McGraw-Hill, Appleton-Century-Crofts, Visión and Visaõ.

At the seminar in Latin American Area Studies, conducted with the University of California at Los Angeles in February, 1961, and led by Chancellor Franklin Murphy, who is a member of CHEAR, an opportunity was provided for a selected group of Inter-American program directors to share information on common problems faced in developing new study programs. Subsequent to the meeting, several universities reëxamined their existing Latin American area offerings or initiated new ones. Other developments, probably influenced by the CHEAR recommendations, were that the Ford Foundation extended its Foreign Area Training Fellowship to include Latin American countries and that the US government appropriated funds to strengthen Latin American area studies.

After the Sociology Seminar, held at Stanford University in August, 1961, sponsored by the Social Science Research Council with the American Sociological Association, a number of the participants volunteered to conduct relevant research in their own countries. The papers were collected by the Social Science Research Council for publication and distribution to leading sociologists in North and Latin America. At the Interdisciplinary Conference on Latin American Education, held at Princeton in December, 1961, a series of specific recommendations were produced in a number of different fields that have been presented to various governmental and non-governmental organizations for consideration and implementation. Similarly, the Economics Seminar, conducted by the Social Science Research Council with the American Economics Association at Santiago, Chile, in August, 1962, generated a series of analyses and recommendations of value to universities in strengthening their faculties of economics. The report of this seminar has been prepared in both English and Spanish and is being widely distributed among universities throughout the hemisphere.

Additional accomplishments have been the result of CHEAR deliberations. For instance, President T. Keith Glennan and Professor Raymond Bolz of Case Institute of Technology, with Professor Rex Hopper of Brooklyn College, surveyed engineering and technical education in Latin America for the Council. In his report to the 1962 CHEAR Conference in Rio de Janeiro, Dr. Glennan pointed out the great need for skilled, well trained technicians and junior engineers throughout Latin America. These individuals, understanding modern processing techniques and manufacturing methods, were needed as foremen, supervisors, and specialists in quality control and the application of new methods. Dr. Glennan estimated that technicians should be trained at the ratio of ten or fifteen to one graduate engineer. His findings motivated a hemispheric Engineering Educators Seminar, held last February at the Case Institute in Cleveland, Ohio.

Dr. Glennan, who is co-chairman of CHEAR with Dr. Risieri Frondizi, until recently Rector of the University of Buenos

Aires, has also originated a proposal with Dr. James A. Perkins of the Carnegie Corporation to establish a Foundation for Engineering and Technology. Charged with stimulating and aiding teaching and research in the sciences and their technological applications in Latin America, it would also assist the rapid development into centers of excellence of a small number of selected Latin American universities. Key responsibilities of the proposed foundation would be exchanges of professors for research, training, and experience, equipping science and engineering laboratories, and the establishment of a graduate fellowship program. Assistance to science teaching in secondary schools and teacher-training institutions is also envisaged.

In Law and Liberal Arts

In another survey conducted by CHEAR, Dr. Milton Katz, Director of International Legal Studies at Harvard University, studied the nature of Latin American legal education. This enterprise led to a request from Brazil and Chile to meet with Harvard specialists in law, economics, and sociology to consider ways to improve university programs for the training of lawyers. The meeting was held in December, 1962, in Brazil with the support of the Ford Foundation. Out of this conclave has come a plan to establish experimental programs for students of law at the University of Saõ Paulo and the University of Santiago with the advice and counsel of the law school of Harvard University.

To clarify the type and extent of our higher educational activities with Latin America, CHEAR sent questionnaires to over 1,000 US colleges and universities and 150 comparable Latin American institutions. The questionnaire sought information on inter-American programs and plans in operation or being planned, and on personnel, institutional resources, and other interests relevant to educational activities with Latin America. The responses from Latin American institutions are still being collected, and a report will be produced in the near future. This project generated wide interest in Latin America and has led to a number of requests from universities for advice and assistance from CHEAR.

Another similar CHEAR project is the Comparative Study of Higher Education in the American Republics, financed by the Ford Foundation. For the past two years, a staff under the general supervision of Dr. Anisio S. Teixeire of Brazil, with Dr. Harold Benjamin as the senior North American consultant, has been working on a detailed study of higher education in the Americas, collecting data from both large and small universities. Because of a lack of printed reports and documents, investigations have had to be conducted through many personal visits to universities and by use of specially selected consultants in the different geographic regions. The report, now under final preparation in book form, will not only treat the history, organization, programs, faculty, student population, and major problems of Latin American universities; it will also analyze developments and conditions affecting the future growth and impact of higher education. The volume will be printed in English, Spanish, and Portugese for distribution primarily in the western hemisphere. It is anticipated that this comprehensive study will contribute to better understanding of higher education and provide the basis for establishing more effective cooperative relationships among universities in the Americas.

Participants in CHEAR conferences and meetings concur that the exchange of ideas among North and Latin American educators can produce measurable and useful results. For instance, during the San Francisco Conference of 1961, Rector Juan Gomez-Millas of the University of Chile was intrigued by a discussion of California's two-year college plan. He requested that specialists from California visit Chile to investigate the possibility of establishing such institutions there. The Ford Foundation made this possible, and as a result, the first three of a series of eight to ten two-year colleges have been constructed in Chile. Whereas at the University of Chile, only two per cent of its student body come from the worker, farmer, and other lower income families, the new two-year colleges draw 27 to 28 per cent from these groups, thereby providing a novel educational opportunity to an important segment of the Chilean population.

Publications South

Another example of direct material assistance being given by CHEAR to Latin American educators and students is its scholarly journals project. Available evidence indicated that few US learned journals in the humanities and social sciences were being read in Latin America in spite of continuing requests by professors for these materials. After careful consideration, CHEAR and the American Council of Learned Societies selected thirteen major scholarly journals in the appropriate disciplines and in June, 1962, presented one-year gift subscriptions to these publications to 775 leading scholars and institutions in Latin America. A previous check had revealed that none of these journals had had a circulation in Latin America greater than 71 copies. Letters received from the new recipients clearly reveal not only their gratitude, but also their intention to share the journals widely with colleagues and students.

A second project for the distribution of professional journals to eminent Latin American scholars in the fields of engineering, science, and technology has been proposed for 1963. The National Science Foundation, Pan American Union, and Case Institute of Technology, among others, are participating in developing this project. One hundred subscriptions each of twelve different scientific and engineering journals will be awarded to educators and institutions. While these projects are developed to familiarize Latin Americans with our journals, a similar plan is being prepared to make available the best Latin American journals to scholars in the United States.

Information exchange is a *mutually* advantageous business. To advise and assist individual Latin American educators or groups of educators have also been important aims of the Council. For instance, CHEAR supported two visits to the United States by Dr. Carlos Tunnermann Bernheim, who studied in detail the organization and function of three US regional educational associations. In this way, CHEAR was able to help the Consejo Superior Universitario Centroamericano (Central American Council on Higher Education) to develop its plan of cooperation among the universities of that area. It also provided professional assistance and advice to the director and staff of CSUCA and aided in its designing projects for submission to foundations and other financing agencies.

Where there is inter-governmental sensitivity, working contacts between educators can helpfully be maintained through CHEAR—witness the case of the organization in 1962 of a multi-agency planning group to assist the University of Santo Domingo. Because of the sensitivity of relations between the United States and the Dominican Republic, the Department of State and the Inter-American Agency established working contacts with the administrators of the University.

Dr. William Spencer, of the Institute of International Education, and Dr. Arturo Morales Carrion, Deputy Assistant Secretary of State, visited Santo Domingo to confer with the rector and deans. Later, Dr. Orlando Olcese, Rector of the National Agrarian University of Peru, represented CHEAR on a working mission to the Dominican Republic, sponsored by the Inter-American Development Bank, to determine projects eligible for development loans.

Educational Catalyst

The continuing exchange of ideas at meetings and conferences of CHEAR participants has a catalytic effect. It stimulates educators of both continents to explore and investigate ways of improving our educational systems. As an example, at the 1962 CHEAR Conference in Rio de Janeiro, a full session was devoted to a consideration of secondary education. The rectors and presidents were unanimous in believing that the universities have a responsibility to help secondary schools provide the high quality of graduates who are essential if the university is successfully to train future leaders. Accordingly, a small team of North and Latin American specialists in secondary education was appointed to study one aspect of the situation. Guided by Dr. Risieri Frondizi and Dr. William Spencer, the team, composed of three Latin and three North Americans, studied the possibilities offered through university-related secondary schools to assist in the over-all development and improvement of secondary education. The group spent four weeks visiting selected secondary schools in Argentina, Brazil, Chile, and Mexico and presented specific recommendations and projects for implementation by CHEAR at the Mexico Conference this past February.

This Fifth Annual Conference of the Council on Higher Education in the American Republics has been the culmination of five years of intensive work. Items on the agenda reveal the wide range of academic interests. In addition to the report of the secondary education team, it included a report and recommendations by the inter-American engineering educators conference, the seminar on legal studies, and the seminar on agricultural education in Latin America. A significant session was the discussion of the place of the humanities in the technological curriculum, led by Dr. Robert Oppenheimer, Director of the Institute for Advanced Studies at Princeton, Marcel Roche, Director of the Venezuelan Institute of Scientific Investigations, and Dr. Lynn White, Professor of History at the University of California at Los Angeles.

As the various private and governmental agencies and organizations continue to assist with the development of education in the Americas, it seems evident that CHEAR is making a distinctive contribution. It is an inter-American organization for higher education, uniquely qualified to inform and to provide advice to universities, governments and international agencies, foundations, and business concerns on problems and projects directly concerned with educational development and inter-university cooperation in the Americas. Only by keeping the channels of educational communications open and by continuing the exchange of ideas and information on topics of common concern and interest can we help close the many gaps in education and establish a more understanding spirit of friendship in the Americas. Instantaneous communication via satellites may assure wider distribution of information, but only the direct meeting of minds among educated men and women will insure mutual understanding and respect.

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American Indian education as a cultural transaction

If during the several centuries in which they have been in contact, much of the interaction between American Indians and whites (Europeans) has centered about trade, warfare, and the eviction of the Indian peoples from their homelands,[1] an equally constant theme has been education. From the Spanish and French missionaries until the present day, the whites have been concerned to educate the Indian.[2] Usually, this has implied not simply the imparting of literacy, technical skills, or academic lore, but the transmutation of his culture and personality—from a heathen into a Christian, from an economic collectivist into an individualist, and, in the case of the nomadic groups, from a hunter into a settled and diligent farmer.

Interested in the technological accomplishments of the whites, the Indians quickly accepted a number of them. Their adoption of the domesticated horse, for example, was so thorough that the mounted warrior has become the popular stereotype of the true Indian. We can no more think of the traditional Navaho without his sheep (domesticated in Europe) than of the Pilgrim fathers without maize and pumpkins (domesticated in the Americas). Indians were also attracted to the formal learning of the whites, and during the period of European exploration and early settlement of this continent, several of the independent tribal units were hospitable to the founding of schools. The Cherokee nation became an outstanding case, establishing its own school system, operating a national newspaper, and spreading literacy more widely among its people than the neighboring white states did among theirs. Within a short time, a sprinkling of Cherokee were college graduates, so that it and related Indian nations of the south were referred to as "civilized tribes." Had they or other tribes, then receptive to formal learning, been given even another generation in which to absorb, diffuse, and integrate Western knowledge into their cultures, the results might have been surprising. But the lawless and violent frontier, with its hordes greedy for land, advanced too swiftly. Perhaps, also, the very learning of the Cherokee was too gentlemanly for the contest. They might have been better off if their young men had learned the baser arts of metallurgy and chemistry, the manufacture of guns and gunpowder; instead, they learned how to argue and win a case before the United States Supreme Court and then found their cause lost when President Jackson ignored the decree protecting their national rights.

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[1] An excellent, but brief, history of Indian and white contact in North America is Hagan (*10*); it also has some bibliography. The student interested in ethnographic detail on particular tribal groupings will find invaluable the extensive bibliography collected under the supervision of Murdock (*23*).

[2] Adams (*1*) is a short and colorless history of Indian education, containing an extensive bibliography. Sketches of article length will be found in Thompson (*29*), Fey and McNickle (7), and Lesser (*20*). Beatty (*3*) reviews the period of his own activity as an administrator from the late 1920's until the reversal of policy under the Eisenhower administration.

Exploitation and Education

The hunger of the whites to exploit the resources of the frontier could not be slaked, and as the power of the United States increased relative to its Indian neighbors, it embarked on a final series of efforts designed to exterminate them as separate peoples or assimilate them forcibly into the general population. The Indian Removal actions of the nineteenth century and the Reservation system broke the power of the independent tribes and brought them under severe control. Allotment of reservation lands in severalty usually led to further disorganization and impoverishment.

As the tribes were forced to surrender most of their political independence, so too did they surrender any effective control over the formal education of their children. It was not merely that white administrators regarded them as incompetent to operate schools, but that they felt that contact between Indian parents and their children would corrupt the latter into "Indianness." So, during the latter part of the nineteenth century, children were virtually kidnaped from their homes to be incarcerated in boarding schools where they were subjected to a severe discipline in order to mold them into "whites." Education was thus transformed from a process, over which the Indian had had some control and which he might have viewed as a device for helping himself and his people, into an instrumentality of the superordinate white and directed punitively at the sense of Indian identity.

Since that time, of course, there have been a variety of important changes in governmental policies. Before mentioning some of those pertinent to education, it will be useful if we first obtain some kind of picture of the kind of Indian community that has resulted from this earlier era of conflict, brutality, and repression.

Indian communities today are of several different forms. At one pole are the rather small groups who have lived intimately with white society for generations, possessing little autonomy and actually preserving more in the way of outmoded European practices than of native Indian ones. At the other pole is a diversity of tribes, relatively autonomous and isolated bodies, and preserving a great many native practices and customs even while selectively adopting many of the technological complexes of the larger society. For many of these people, the native language is the primary one within the household and the first learned by the child; likewise, the native religion continues to regulate the habits of the family and community, even when a veneer of Christianity has been applied. Despite the persistence of native traits, theirs is not the aboriginal culture but a "reservation culture," a distinct and novel form, adapted to their peculiar mode of existence *(37)*. It is the groups with these "reservation cultures" that constitute what is referred to as the "Indian problem," and it is their community dynamics that we shall now review.

Conservative vs. Progressive

Most of these communities are divided into two basic factions, those known as "fullbloods and those known as "half-breeds." The true difference between them is cultural and ideological, rather than racial. Because interbreeding with persons of European descent has been going on since the earliest days of exploration and trade, I refer to the first group as *conservatives* (or traditionalists) and to the second group as *progressives*. Both are dissatisfied with their present condition of poverty, social disorganization, lack of autonomy, and general cultural depression,

Responding to these evils, the conservatives turn toward the past and cherish memories of ancient glories. (A minority of extreme traditionalists believe that ultimate relief depends on supernatural intervention, which may be facilitated by reviving and maintaining tribal rituals and customs.) As to proposals for current reform, the conservatives are thoroughly skeptical of anything issuing from the whites or modeled upon them. In their judgment, the white is the alien, the enemy, and the intruder, who has brought the Indian people only misery. "Acting white" is the most stinging epithet in their vocabulary. They are not sure how to improve the lot of their people, but they find only further malaise in most suggestions emanating from the white and his administrative agencies.

The result is a negativism in which the energies of the conservative population are devoted to preserving a style of life that represents a sorry amalgam of impoverished white and deteriorated Indian cultures and with which they themselves are impatient. The more the administrators criticize and pressure for reform, the more they identify their true "Indianness" with the refusal to budge, even to improve their condition. (A good proportion of their white neighbors is ever happy to agree that the Indian cannot learn and will not change.) Their syndrome of economic impoverishment, isolation from other cultures, and blind conservatism is self-reinforcing, and the greater the pressure upon them to change, the more they resist and withdraw. As only one of many possible illustrations, there are fewer fullblood Cherokee who are literate today than there were a century ago, when they were part of a flourishing and independent Indian nation.

Progressive Assimilation

In contrast, the progressive faction of the community is oriented toward the white society and the acquisition of white customs, values, and manners; their aim is assimilation. Most of them, however, have a limited perception of the nature of the larger American society. Their view of it is based not on direct vision, but on refraction through the dicta and preachments of a highly mixed crew of administrative officers, school teachers, and missionaries. Ordinarily, the sole corrective available to the progressive is actual experience with neighboring white society in the form of small Western towns, usually provincial and often contemptuous of all things "Indian." In any case they are not particularly helpful as preparation for metropolitan areas where a variety of employment and economic possibilities are to be found.

The one experience that has truly enlarged the horizon of some Indians during the past generation is military service. Through it, they have come into contact with a diversity of peoples in a diversity of situations: conquerors and conquered, technologically advanced and retarded, pro- and anti-Americans. Some of these young Indian men and women, returning to their home communities, have been acting as a leaven. But, it is still generally true that the viewpoints of both conservatives and progressives in most Indian communities are extremely limited, with neither having any true conception of the richness, flexibility, and vitality of the aboriginal societies nor of the fantastic variability and potentialities of the Western civilization to which their peoples have been marginal.

For the white person dealing with conservative Indians, it is important to know that voluntary cooperation has been the basis of most Indian societies. Those disapproving of a project simply withdrew and refused to participate, and the tactic has been and is employed today when conservatives deal with whites and progressives. Withdrawal and negativism have allowed Indians to be defrauded of property and rights on innumerable occasions, and have likewise caused them to reject projects demonstrably to their benefit; but they have also served as mechanisms for perpetuating some recognizable fraction of a unique culture and kind of personality.

Indian Under-Education

So far, I have postponed the presentation of statistics: proportions of children enrolled in school, grades completed, and the like. The reasons for this are severalfold. To begin with, I know personally some of the best Indian college students in the country. On first meeting, many were highly intelligent and original, but were shockingly provincial and miseducated, compared to college students elsewhere. Even their knowledge of American and Indian history, which one might have expected to have some depth, was of the level of American popular culture *(35)*. For the moment, we are not concerned with questions of cause or responsibility for this condition but only wish to remind the reader of what he well knows—that merely serving time within school walls is not equivalent to education.

Also troublesome for utilizing and interpreting educational indices is the problem of deciding who is an "Indian." The Bureau of Indian Affairs compiles its statistics with regard to those persons over whose property it has the status of trustee or regarding whom it has legal grounds to assume some of the role of guardian. Courts of law are oriented toward issues of inheritance and tend to grade Indianness in "quanta of blood" according to the registration of forbears; the courts have been indifferent to the question of "way of life" and have scarcely had to deal with a fraction of the chicanery and evasion of the nineteenth century, when whites claimed to be Indians and Indians claimed to be whites in an effort to participate or withdraw from the reservation system and land allotment *(27)*.

From even the official figures for federally recognized tribes, however, the educational situation is deplorably poor *(31, 2)*. As of 1950, the median number of school years completed among Indians 25 years of age and older was less than six. The comparable figure for the white population was over nine years of schooling. In interpreting the figure for the Indians, we should bear in mind that for a large number, education was offered in a language that was totally or partially foreign, so that much of the effort in the earlier grades was devoted simply to instruction in English (and the routine of a school from an alien culture). Moreover, the low median level has also meant a paucity of persons gaining any sort of advanced education, so that Indian communities have lacked leaders who were broadly educated in the intellectual traditions of the larger society.

In the far past, and even yet today, the simple fact of tribal geography has contributed to educational difficulties. The large tribal groupings of reservation culture are located in barren and inhospitable areas of the country. Thinly scattered, in regions of poor roads, they have been difficult of access for any administrative purpose, including schooling. (This has tended to justify the use of boarding schools from an early age onward.)

More and Less Fortunate

When we come to the current situation of the education of young Indians today, the picture is considerably more complex because of the variation among regions and tribes. Some tribes have had the good fortune to fall heir to wealth recently, in a period when society at large has assisted them to retain it rather than conspired against them. An outstanding case is the Navaho, who, a decade ago, had virtually no exposure to formal education; today, all manner of ambitious programs for educating Navaho youth are flourishing. As they are among the largest of tribal units and with a high rate of natural increase, their change in status will have a great effect on over-all Indian statistics; until now, they have often not been included in totals and averages. At the opposite pole are tribes like the Sioux of the Dakotas, who were poor and still are poor, who were poorly educated and who remain in that state. Unlike the Navaho, they have been within reach of schools for some time, but attendance and enrollment remain major problems, with only 83 per cent of the children, enumerated as Indians within the Aberdeen Administrative Area, enrolled in school *(32)*. Perhaps the most depressing areas—and also the least known—are the remnants of the tribes once termed "civilized" in eastern Oklahoma and elsewhere. Because the federal government withdrew its trusteeship a half-century ago, while at the same time destroying the tribal government and distributing tribal lands, no formal statistics on the conservative (fullblood) group have been reliably kept. As an ironical commentary on the relationship between progressive and conservative factions, some prominent halfbreed political figures have publicly and vociferously denied the existence of educational or economic problems among the conservative Cherokee of Oklahoma. (Fortunately, the Principal Chief of that tribe is far above such nonsense, but his is a limited role, deriving from federal appointment and having the shadowy authority of heading a tribe that was officially dissolved years ago.)

In estimating the scope of the Indian educational problem and the efficacy of various programs for education and betterment, it is important to keep in mind the high rate of natural increase of this population and especially of its conservative core *(9)*. A certain proportion of the young people have been achieving some degree of education, migrating from their home community, even assimilating into the larger population, without significant effect on the social and educational status of the residue. Any permanent "solution" to the Indian "problem"—any amelioration of the conditions of economic, social, and psychic depression—must reach the vast majority of each community. It is arguable that the migration of the youthful, energetic, and better educated has actually accentuated difficulties by depriving their communities of persons who might be able to serve as a bridge between the conservatives and the external society. It is also arguable that the effect of boarding schools is pernicious in that, by educating the child away from home, it unfits him for sympathetic and cooperative action with his kith and kin on return as an adult.

Cross-Cultural Education

American Indian education is, of course, but one instance of the widespread phenomenon of cross-cultural education.[8] Some of its problems are not particularly the fault of either Indian or white, but arise whenever educators of one cultural tradition confront pupils of another *(13, 34)*. A key variable in this transaction is the locus of power—the *de facto* control of the educational process—which may lie with the educators, the pupils, or elsewhere entirely. Within Western history, an early instance of the powerful pupil is Philip of Macedon, who hired an Athenian named Aristotle to instruct his heir, a wild but talented lad, in the intellectual accomplishments of a defeated and politically subordinate people. A more equable balance is manifest in the custom of European aristocrats of the past few centuries, who hired alien tutors of good (though poor) families to instruct their children in the languages and customs observed in other civilized lands. The configuration, now so common, in which the pupils stem from a subordinate or socially disadvantaged stock, seems to be part of the movement for public education, which is a recent development within Western civilization.

As an aspect of that movement, our metropolitan public schools have been geared to educating and "Americanizing" the children of impoverished immigrants, whether from foreign countries or from our own native areas where a distinct subculture has maintained itself, as among the Negroes of the Deep South or the whites of the Middle Southern hills. Even where the ethnic stock of a community is reasonably homogeneous, there are still significant differences in culture and political power among the various classes *(14, 33)*. Thus, we are accustomed to a tripartite educational configuration in which ultimate control rests with a school board derived from the higher reaches of community status and power; day-to-day regulation rests with administrators and teachers of a middle level of status and power, and the parents of the pupils—many of whom represent the lower levels of the community—have little or no voice as to what is taught their children or how it is done. Because we take this configuration so much for granted, it is worthwhile reminding ourselves that, especially in the cross-cultural situation, it is neither natural nor inevitable that the recipients of the education lack control over the school system. This is of some international significance. In the countries that were formerly colonies, the nationalistic drive for independence has also affected the educational institutions; rather than being the targets of the educational missions of more advanced peoples, these new nations wish to operate their own schools and to utilize foreigners as advisers only.

School Against Parents

The goal of the educational process is another issue which likewise affects that of the locus of control. Traditionally, formal education has had modest or specialized goals, such as furnishing the populace with the rudiments of literacy so that they could read Holy Scriptures or giving them the simple intellective skills basic to the common manual arts; only an elite was given prolonged, intensive training of an abstract sort. With the public education movement, the school has been assigned, or come to inherit, the task of fully socializing children through adolescence, with, as a corollary responsibility, the assimiliation of children of "deviant" ethnic backgrounds into the common American mould. Where socialization and assimilation are the educational goals—rather than, say, vocational training—the school becomes in effect a challenge to the authority and wisdom of the parent generation. If some degree of control over the educational process remains with the parent group, the conflict may be meliorated. But when the locus of control is elsewhere, then the schoolroom may become the focal point of all manner of tensions, complicating the simple transmission of knowledge. On the one hand stand adults who represent a particular, superordinate, civilized tradition; on the other hand sit pupils who are to be inculcated with customs, values, and thoughtways different from and antagonistic toward those of their elders.

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[8] The author would be grateful for bibliography on studies and informal descriptions of cross-cultural education in various areas of the world.

Both parties to the cross-cultural school exercise selectivity with regard to the content of the educational transaction. From the variety of his own civilized society and its intellectual traditions, the educator selects customs, creeds, and knowledge which are moral and proper or the effects of which will, he hopes, be salutary. In this fashion, he tends to draw an unrealistic picture of his society and, if his goal were simply assimilation, he would have ill prepared his audience for the actualities of life.[4] Conversely, most pupils tend to cling to the customs and values practiced in their homes and to view the subject matters of their curriculum with the detached eye of the practical man: How can this be of any use to us. (It is notorious that the traits most easily adopted in cases of cultural contact are those of immediate utility and gratification, so that on the American frontier, the Indians quickly learned the use of iron kettles and alcohol and the whites the use of canoes and tobacco.) Within the educational situation, most pupils are oriented not toward assimilation and the discarding of native ties, but toward sharing in the material benefits associated with the culture of the teacher.

An additional element in the cross-cultural transaction is the impact of the school as a social institution. The more the school and its educational processes encompass the child, the greater is their impact, if for no other reason than that they thereby isolate him from other associations and relationships. Most Americans have come to take for granted and to regard as normal and wholly desirable a system of formal education that physically separates child from parents for most of the hours of the day and most of the days of the year. Where the child of a primitive society would early have been given responsibilities within his kin group —caring for those younger than himself, garnering food, herding flocks—here he is sorted and segregated by age level, isolated from external responsibilities, and devoted solely to his own educational development. Without entering into the merits and demerits of this system, it is plain that its introduction into Indian society is thoroughly disruptive of traditional patterns of socialization, social control, and familial labor.

School Quality

Evaluations by outside authorities of federally operated schools for Indian children have tended to rate them as being technically adequate *(2, 26, 4)*. Assuming this to be so, it follows that the current state of the Indian educational problem cannot be attributed to schools that are deficient in personnel or facilities. The evaluations acknowledge that the schools are not ideal in terms of their task or in terms of their numbers or convenience of location to the various Indian communities. Some people still lack a proper number of schoolrooms per capita, and the choice still seems to be one between day schools with long bus rides or boarding schools some distance from the home community. (This situation may be an ideal one for experimenting with television and other electronic and mechanical teaching aids as a substitute for the cost, regimentation, and familial disruption of boarding establishments.) As to the quality of the curriculum, the Bureau of Indian Affairs has taken the realistic attitude of trying to make its schools comparable in aims and techniques to those of the public schools of the states in which Indians reside *(15)*. If the white children of neighboring communities perform better on standardized achievement tests than do the Indians—and these differences have been measured—then the fault cannot be said to rest with the school systems, as such *(4, 5)*.[5]

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[4] Foster is the first anthropologist to call attention to the mechanics of this selective transmission by a study of the Spanish influence upon the Americas (*8*).

For some time, the Bureau of Indian Affairs has aimed at eliminating the special school system for Indian children and having them attend the public schools of their region. The principal area of dispute has been the rate of this change. Especially under the Eisenhower administration, the policy tended to be one of terminating the federal schools as rapidly as possible. Advocates of this policy have contended that the informal learning that then occurs between Indian and white child is important, and some have also declared that schools for Indians alone constitute a form of segregation which the federal government must not practice. Opponents of this policy have contended that the Indian child of conservative parents is not prepared for so drastic a change and is competitively and culturally so much at a disadvantage, especially when confronted with teachers who know nothing of Indian ways, that dropout is likely *(17)*. Nevertheless, there is little warrant in the available evidence from which to infer that the cause of the Indian educational problem is the technical inadequacy of the school system.

Abilities or Values?

A second factor to be ruled out is the possibility that the Indian child is incapable of mastering the educational tasks in question. Unquestionably, the child of conservative Indian background starts school at a disadvantage compared with a child of the white middle class. His native tongue is not English (nor related to Indo-European languages), and the practices of his family do not involve much use of literacy or other scholastic skills. Yet this lack of background has been successfully overcome in other American cross-cultural situations. During the past half-century and more, many children have been reared in homes oriented about the values of the "old country," and even nurtured on its language, and yet gone on to respectable achievement, educationally and vocationally. Following Havighurst and Neugarten *(11, 12)*, we can assume that by the time the Indian child enters school, he will have developed skills and sensibilities superior to the whites in some areas and inferior in others, but that over-all, he should be capable of educational achievement, provided other factors do not interfere.

While the cultural difference between school and the Indian home may be of minor significance in preparing the child *intellectually* for his educational tasks, it is my hypothesis that this difference is of great significance in terms of the disparity and conflict of *norms and values*. This hypothesis, which may be denominated *cultural disharmony* or *cultural shock*, derives from the well established facts that conservative Indians train and discipline their children in quite different fashions and concerning quite different areas of life than do most whites (*36*, *18*, *19*, *21*, *30*). Indian children thus experience the ordinary American school as individualistic, competitive, intrusive, regimented, immoral, and emotionally frigid, compared to life in the home circle. Conversely, the inexperienced or straitlaced teacher finds her Indian pupils to be unresponsive, intractable, lacking in scholastic initiative, and morally delinquent.[6] This conflict will, of course, be exaggerated in boarding schools as compared with day schools. Cultural disharmony was noted and emphasized in a variety of researches conducted a generation ago. Since then, there have been many changes in Bureau policies and in the living conditions of some tribes, so there may have been considerable improvement.[7] It would be of especial interest to study the devices by which this cultural disharmony may have been minimized in some cross-cultural schools.

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[5] I deal here only with the scientific issue of the cause of Indian educational deficiencies and not with the political or moral issue of whether it might be wise or expedient to improve Indian schools greatly, regardless of parity with neighboring communities.

Identity in Crisis

A second, positive hypothesis as to the causes of Indian educational problems concerns the attitude of the elders of the community toward the school system. Insofar as they feel that the schools are instrumentalities of the whites, designed to inculcate Indian children with alien values and to transform them into "whites," they are antagonistic. This notion of a threat to Indian identity poses the question of the extent to which conservative Indians feel that schools are punitively directed against their very being rather than designed to help them, as Indians, to improve their lot.

Comparatively, we should again bear the immigrant case in mind. The urban school was, in effect, a challenge to the authority of the first generation of family elders and to the values of the ("old country") society from which they had sprung. They could tolerate this challenge only because they had already accepted the goal of adaptation to the larger society with its accompanying social and financial gains. For religious reasons, some immigrant groups have not wished their children to assimilate into the larger society, and where they have settled in relatively dense and self-sufficient communities, highly integrated about their own institutions, they have been notably successful in resisting the assimilative force of public education. The parallel between such communities as those of the Amish and Hutterites and those of the American Indians is highly stimulating and again suggests that some of the educational difficulties have little to do with the intrinsic nature of Indian personality and values.

Third, the degree of participation or exclusion from the process of decision-making on educational matters varies among tribes but is typically low. Parmee (*25*, p. 23) has been studying one problem case, the San Carlos Apache, and I can do no better than to quote from his (oral) discussion:

> Many Apaches object strongly to the

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[6] Erikson's account (*6*) permits one to discern the horrified shock of some teachers and boarding school personnel when they encounter the sexual behavior of the Sioux, which is governed by standards that are loose and precocious when compared to those of the middle-class white. Briefer, less interpretive accounts, describing the difficulties of sympathetic educators, confronted with the behavior of children from conservative Indian families, will be found in (*17*, *24*, *28*).

[7] Since it is sometimes thought that hiring Indians for administrative or educational positions eliminates the problem of cultural shock, it should be pointed out that the effect may be the reverse. If the Indians hired are aggressively "progressive" and assimilationist, they may be less tolerant of conservative practices and more hostile toward conservative elders than were their white predecessors.

fact that they have almost no voice in the planning and operation of their educational school program, of their reservation school program, and yet they are expected to give it their full and complete support. Apaches say that they are continually told that some day they will have to run their own affairs, but they are given few opportunities today to learn how to manage such a program through experience gained by taking part in its present operation. Large numbers of Indian parents on the reservation have only a meager background in education and almost no contact with the schools that their children attend. Communication between parent and child on school matters appears to be surprisingly limited. As a result, many aspects of a school program are neither known nor understood by the parents even though they are required to give it their full support.

Career Ignorance

The fourth and last hypothesis is one of *career ignorance;* it states that Indians lack understanding of the economic potentials of the larger society and of the careers and vocations that might be available to them were they to seek them and acquire the requisite training. Throughout, I have stressed the practical orientation of the Indian peoples when they are not disturbed by ideological conflicts over their identity and values. Indians would like to improve their economic situation, and, as Hoyt *(16)* has noted, their children are much concerned about obtaining jobs on leaving school. The isolation and provincial quality of their environment, however, limits their knowledge both of the sheer variety of occupations and of their educational prerequisites.

In the past and still today, the federal government has tried to steer Indians into careers which seemed appropriate in terms of their limited skills, the nature of local resources, and the needs of the total economy. However, the position of authority of the federal officials *vis-a-vis* the reservation peoples has created a strong tradition of suspicion. The most unfortunate situations are those where *career ignorance* is combined with the factors involved in the other hypotheses, *cultural disharmony* and *threat to Indian identity*. When the guidance given to Indians is designed not to enable them to improve their economic status, but to push them out of their home communities and toward some version of assimilation, then the counselors and their advice are most likely to be regarded with antagonism. Parmee's report *(25*, pp. 24-25) on the Apache is again appropriate:

> A . . . reason for . . . resistance and lack of interest on the part of some Apaches concerns the possibility that one of the chief goals of the educational program for the Apaches is aimed in direct opposition to the real desires of a large number of people. This goal, which has been openly stated by . . . administrators and is supported by the nature of the program is simply this—to get Apaches away from the detrimental influences of life on the reservation and to train them for assimilation into off-reservation communities. Most Apaches . . . seem anxious to keep the reservation, to live on it, and to prosper from its resources in modern, comfortable, and distinctly Apache communities. Nevertheless, there is much evidence to indicate that economically, socially, and educationally, such goals that Apaches have are not being encouraged.

Even if or where this type of antagonism and striving at cross-purposes did not exist, school and employment counselors would still be greatly limited in what they could do for their Indian clients. With any group, much of job-getting takes place through informal channels of communication, a tradition of "savvy" or "know-how" about some area of the economy or region of the country, and just plain chance. Typical of this process is the success of the Caughnawagas in high steel *(22)*; to my knowledge, no counselor had ever explicitly oriented Indian youth toward this kind of valued and remunerative occupation.

In the long run, the Indian must himself make the basic choices, judging his own interests and abilities and needs. To do this wisely, he must be able to perceive the connection between childhood education and adult vocations. Meanwhile, so long as he does not understand —or is so threatened that he understandably refuses to understand—that the schooling open to his children may lead them toward novel careers that are remunerative, personally satisfying, and suitable to their values, he will simply not make the sacrifices required; nor will he encourage his children to do so.

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Readers on the Record

TO THE RECORD EDITOR

The National Education Association states that there is a shortage of 134,000 teachers in the United States. The cold war with Russia may be won or lost in the classroom, not on the battlefield. To meet this crisis, a novel suggestion is offered by Dr. Robert E. Mason, professor of education at the University of Pittsburgh, in an article in the February *Record*. He proposes that all teacher-training institutions be required to meet a quota in the production of new teachers or be penalized by losing their accreditation.

But this practice would simply lower standards by forcing colleges to accept anybody and graduate them all. Better solutions to the teacher shortage would be (1) higher pay for beginning teachers and (2) the financing of deserving college students by passing a GI Bill for cold-war veterans. These young men and women have all had physical education and health instruction in the military and have completed their military obligation. Many were instructors in the services. They would make excellent teachers and win the respect of students. Over 230,000 teachers were trained under previous GI Bills.

Veterans graduated under previous GI Bills have proved themselves successful teachers, doctors, dentists, nurses, scientists, and engineers—all greatly needed by our country. Surely, if Russia can afford to finance educations for college students, we can; indeed, we must, if we are to keep ahead of Russia. Veterans graduated under previous GI Bills have already paid back the cost of their schooling in income taxes on their higher earning power. Therefore, the cost is effectively nothing, and such programs greatly strengthen our country. Now is the time for educators, young people, and their friends to invest a few postage stamps and to write their Congressmen, urging them to support a new GI Bill.

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Economic education in transition

EDUCATIONAL PROBLEMS in the social sciences are in urgent need of serious professional study commensurate with the attention now being accorded the physical sciences. Serious gaps, both in time devoted to the subject and in depth of treatment, are evident in anthropology, geography, economics, sociology, and social psychology. In most of these areas, genuine interest is just beginning to emerge and has yet to become sufficiently crystallized to permit an analysis of trends and programs. A noteworthy exception is economics.

Probably the most effective expression of concern about the present status of social science in public education is to be found in recent efforts to improve the teaching of economics. Although the question of economics in the schools has been explored with varying intensity and effect since the latter part of the nineteenth century, the past 15 years have witnessed a growing convergence of interest and effort in economic education by a variety of persons. This virtual groundswell is probably attributable to fresh assessments of the importance of an economically literate citizenry, and to a pronounced and widespread conviction that the study of economics is being neglected by our public schools and teacher-training institutions. During the past five years, the economic education movement has been in a process of transition—a transition which is being greatly accelerated and shaped by a number of new and exciting programs which give promise of generating significant and lasting improvements in the whole process of economic education.

How Much Is Taught?

As the professional economist sees it, very little economics is actually taught at any point in the public school curriculum, although an impressive array of economic topics is presented in various courses and units of study. The difficulty is basically threefold. First, only about five per cent of all high school students ever take a separate course in economics. This means that most of the economics which is taught must somehow be fitted into courses and units of study whose major purposes and emphases are not to teach essential information about the structure and operation of the American economy. Second, there is little or no relationship of a sequential or other type developed among the fragments of economic understanding presented in other courses and units of study. Third, the economic topics which are introduced are not presented in terms of such underlying economic forces and processes as specialization and division of labor, competition, capital formation, and economic growth.

Teachers are inadequately prepared in economics. Typically, they have never studied economics, or only superficially or inadequately. Only a little more than half of all social studies teachers have ever had as much as a single college course in economics. Of these, few have taken more than one or two. Only 18 of the 50 states require even an elementary course in economics for certification to teach high school social studies. A recent Joint Council study of 50 colleges across the country disclosed that 38 offered a major in social studies, but only 25 of these required any economics for the major, with the median requirement being only one year. Buttressing studies of this type is the accumulated experience of hundreds of economists and educators who have worked closely with social studies teachers in summer institutes, extension courses, and on the job—experience which indicates a substantial unfamiliarity with content.

The treatment of economics in textbooks was cogently stated by the National Task Force on Economic Education in its summary of a recent analysis of the economic content of leading texts in economics, problems of American democracy, and American history:

> The treatment in textbooks is mainly descriptive; economic analysis is almost entirely absent; the reasoning is often loose and superficial; value judgments of the authors, generally unidentified as such, abound. The committees reported that these books generally fail to develop an awareness of what the fundamental economic problems are, and of how rational, objective reasoning can contribute effectively to their solution. In the American history books, to which most high school students are exposed, the treatment of economics is primarily descriptive and fails to emphasize economic analysis of the major problems involved, since the emphasis of the books is historical.

In the realm of supplementary materials, teachers are bombarded with stacks of pamphlets, bulletins, brochures, and booklets disseminated by various groups and organizations, many of which are little more than special interest pleading. Among these materials, however, are occasional items of genuine pedagogical value; but many teachers are unaware of their existence, and others lack the time, knowledge, and confidence to separate the wheat from the chaff.

Description vs. Analysis

Methodologically, the typical approach to economic subject matter is descriptive. Rarely are students required to engage in disciplined, analytical thinking. In American history, for example, the growth and development of the nation's transportation system is presented as a dramatic conquering of the West, with the emphasis on such things as miles of track, the airbrake, and the refrigerator car. Attention is focused on instruments (steamboats, trains, planes) rather than on the impact of changes in transportation on specialization, division of labor, extent of market, relative prices, industrial location, or employment opportunities. In place of ideas, we teach about things; in place of analysis, we offer description. In place of disciplined thinking, we encourage and accept appeal to authority, superficialities, inaccuracies, and generalities.

Much of what purports to be economics is characterized by a heavy emphasis upon matters of personal adjustment to the economy at the expense of attention to the structure and operation of the economy. Students learn how to choose a vocation, how to save and invest money, how to budget their income, how to read advertising critically, and even how to apply for a social security card. Typically, the presentation fails even to indicate the significance of personal decisions for the operation of the economy or the import of the performance of the economy for personal decision-making. Certainly such a "how-to-do-it" presentation makes little contribution to an understanding of crucial economic problems and issues.

When problem-solving approaches are attempted, there is frequently a tendency toward a superficial lumping together, without distinction, of facts and values. Too often, only the current manifestations of more persistent problems are treated. As a result, we give little attention to underlying processes, basic concepts, or a frame of reference necessary to recognize symptoms, understand causes, or evaluate remedies. Problems are defined *de novo* in each case, with much appeal to authority for "solutions" with little comprehension of issues.

Similarly, in economic education and in the social studies generally, the tendency is to avoid controversial issues except for an occasional attempt to present "balancing" arguments with no systematic or objective analysis of the relevant economic facts, concepts, and processes. This tends to create a climate in which economics is regarded as simply a matter of opinion where one person's view is as good as another's. Objectivity is interpreted as a matter of "equal time."

The major difficulty here lies in the inability of teachers to handle controversial issues, but even a competent and reasonably courageous teacher would be somewhat naive if he failed to sense the risk involved. Unfortunately, the more significant the economic issue, the more controversial it is likely to be. Students will necessarily be exposed both to some views not shared by their families or important groups in the community, and to a critical analysis of other views cherished by their parents and others. Community constraints on the teaching of controversial issues bears testimony to the generally inadequate level of economic understanding in the United States.

Joint Council Workshops

Although many groups have long expressed interest in the problem of economic education, prior to 1948 there was no organized body with both the inclination and the position to define and present persuasively an effective program. The need to establish such an organization, with means for continuing study and expanding effort, was emphasized some 14 years ago in an exploratory study by leading educators, economists, and representatives of state departments of public instruction. What they recommended was a genuine cooperative enterprise, involving all segments of the economy and all levels of education—an organization that effectively could lift economic education above the private contests of pressure groups.

With initial sponsorship by the Committee for Economic Development, these views were translated into action through the formation, in 1949, of the Joint Council on Economic Education. The general pattern and principles of the Joint Council have been multiplied through a network of some 43 independent state and local councils. These councils organize, demonstrate, and finally institutionalize continuing programs involving growing numbers of interested, capable persons.

Initially, attention was focused on three facets of the problem of improving high school instruction in economics. Scant attention was given to the subject; appropriate materials and techniques of instruction were lacking, and many teachers in secondary schools had little, if any, proper training. What was needed was some medium whereby teachers, administrators, curriculum specialists, and economists could be apprised of the problem, appropriate materials and techniques of instruction could be developed, and teachers could be productively and helpfully exposed to basic economics. The device developed to achieve these objectives was the workshop on economic education.

Typically, these workshops have been conducted for high school teachers and administrators over three-week periods during the summer months. The usual procedure is to devote morning and evening sessions to an understanding of the American economic system and how it functions. In afternoon meetings, small groups work on problems of curricular organization, pedagogical technique, and the preparation of instructional materials. Each workshop has a college or university as its host with both local professors and visiting specialists as its staff. In addition to regular staff from the fields of education and economics, speakers and consultants from research foundations, governmental agencies, business, agriculture, and labor organizations are usually an integral part of the program. Evidence of the widespread acceptance of these workshops is found in the rapid expansion of the movement. From a modest beginning of one workshop in 1948, the program has grown until in 1960, 48 workshops, with over 2,600 people participating, were sponsored by colleges and universities in 27 different states.

Directions of Expansion

In their early stages, most state councils were organized and operated on a year-to-year basis. For the most part, their activities were limited to organizing and conducting a summer workshop beamed primarily at high school teachers. In the past five years, however, several new trends have been emerging. These trends have all been in the direction of expanding the scope of state and local programs. Some of the directions of this expansion in economic education may be summarized as follows:

1. Programs are becoming multi-dimensional in character and now are being conceived as a year-around operation rather than a one-shot, summertime activity.
2. More emphasis is being placed on the evaluation of programs, activities, and results achieved.
3. Increasing attention is being devoted to research and systematic analysis of problem areas in economic education.
4. The program is being broadened to encompass the entire school curriculum because potential achievement at the secondary level is heavily dependent on what takes place in the elementary grades and in the junior high school.
5. More emphasis is now being placed on the pre-service training of teachers in contrast to the earlier stress on in-service workshop training.
6. The character and timing of in-service programs is changing. Local in-service programs, involving entire school systems, are now being conducted during the regular academic year, and special courses in economics for future teachers are appearing in the curricula of many colleges and universities.
7. Increasing attention is being devoted to the analysis of existing instructional materials and to the development of new materials.

Now that interest has been kindled and stimulated, the informational and inspirational programs of the formative years are gradually giving way to substantive professional work.

Thus, although teacher-training institutions were involved in the early workshop programs, it was not until 1955 that significant numbers of colleges and universities began to demonstrate an active professional interest. Now, out of the increased involvement of colleges and universities, an important development is emerging. As the need for economic education has been demonstrated and clear evidences of accomplishment shown, a number of colleges and universities have made staff and other budgetary commitments in the field of economic education. While many institutions are now making an effort here and much has been accomplished, the nature, role, and contribution of a university program in economic education are still in flux. Such a state of affairs, however, both reflects and adds to the excitement as the broad contours of a comprehensive university program in economic education are becoming crystallized.

One phase of a useful university program would be to define, conduct, and participate in research projects in economic education. Measured by conventional research standards, the factual base underlying the prevailing conceptions of economic education can best be described as inadequate. In large measure, programs have developed in response to opportunities of the moment. Until recently, there has been little in the way of systematic investigation of the current status of economic education, scant concern with an analysis of problem areas, and virtually no attempt to formulate and test hypotheses or evaluate programs and materials in terms of their contributions to economic understanding. There is a need to pull together scattered published materials, to substitute fact for the impressions of a handful of observers, and to establish more adequate benchmarks against which future progress may be measured.

A second phase of an effective university program would be to collect, classify, evaluate, and make available materials suitable for classroom use and teacher reference. A serious obstacle to the effective teaching of economics in the public schools has been the dearth of adequate textual materials for students. The identification and analysis of materials currently available, of areas where new or additional materials are needed, and of the types of classroom aids that would prove useful are important functions of a university program.

Closely related to the identification and analysis of existing materials are the development and distribution of experimental materials and classroom aids. There is an urgent need for imaginative and creative work in structuring and organizing the content of economics in forms which will be interesting and understandable to students at various grade levels and compatible with the curriculum and general educational objectives of the public schools.

Experimental Teaching

Research findings, however, must be applied to concrete situations, and materials must be tested by students and teachers. Because progress in economic education depends heavily upon the classroom application of research findings, experimental teaching is also an integral phase of a comprehensive university program in economic education. Three levels seem important. First, a systematic and integrated program of experimental teaching should be designed and implemented for appropriate courses and units of study in the public schools. Second, experimental teaching and course design should be vigorously explored for undergraduates preparing for teaching careers. College economists and professors of education should give more attention to programs which incorporate the most recent developments in learning theory and which attempt to build a bridge between economic subject matter and the classroom needs of teachers. Finally, efforts are also needed on the graduate level. One dimension of these efforts would include in-service workshops not only for teachers who return to college campuses during the summer, but also on an extension basis during the academic year for teachers in local communities.

As economic education has matured, the demand for professionally trained personnel has increased sharply. While an academic degree in economic education is most unlikely and probably undesirable, there is an emerging interest among MA and doctoral candidates in both education and economics to specialize in this area through their selection of courses, research projects, thesis topics, and field work. In some institutions, one or more new courses have been introduced to strengthen this type of informal concentration on economic education.

Additional gains may be registered through service as a focal point for individuals and organized groups concerned with economics in the school. Activity of this sort can stimulate serious professional work in economic education and encourage research, experimentation, and the reporting of such work. The service aspect of university programs now in various stages of development broadly includes informational and promotional functions, the consulting services of specialists in education and economics, and the maintenance of channels of communication among classroom teachers, administrators, specialists in education, economists, and professional associations, organizations, and institutions.

Such university enterprises in economic education also imply a publication program, encompassing experimental teaching materials and classroom aids, research monographs, and perhaps a journal designed to facilitate an exchange of views, to promote continuing study and wider dissemination of findings, and to provide an avenue for professional growth.

Administratively, the locus of these programs is usually the department of economics or the college of education. In some institutions, where the effort is well advanced, there is a tendency to move in the direction of a more formal organizational unit such as a center, bureau, or institute. Regardless of locus or organizational form, the trend is toward a continuous, multi-dimensional operation, involving a high order of cooperation and joint participation among economists, professors of education, the public schools, and professional associations.

New Horizons

Despite the impressive accomplishments, progress has been slow and uneven, and serious deficiencies are still with us. The real payoff is to be found in what goes on in the classroom, and on this score, the evidence of significant change is rather meager.

To meet these problems, the Committee for Economic Development, in cooperation with the American Economic Association and the Joint Council on Economic Education, began to formulate, in the late 1950s, a multi-stage, integrated program for the improvement of economics teaching in the public schools. The result is a number of exciting projects of national scope which give promise of making major inroads on economic illiteracy in a relatively short period of time.

The spearhead of this program was the National Task Force on Economic Education, appointed by the American Economic Association and sponsored by the CED. The report *(3)* of the Task Force, published in 1961, presents a framework of basic understandings in economics necessary for good citizenship and attainable by high school graduates. Chapter I of the report emphasizes the need for economic education and surveys the current status of economics in the public schools. In Chapter II, the Task Force stresses a rational, objective approach to economic problems. Specific suggestions on economic institutions, facts, and analysis essential for a reasonable understanding of the modern economic system are presented in Chapter III. Recommendations for achieving such an understanding are set forth in the concluding chapter in terms of the curriculum, approach and method, teachers, teaching materials, and the treatment of controversial issues. The report provides helpful guidelines for teachers, curriculum coordinators, and administrators in developing the study of economics. School systems throughout the nation will now be able to check their own courses of study against recommendations prepared by leading educators and distinguished members of the economics profession.

A second contribution is the recent study of high school social studies textbooks, conducted under the auspices of the American Economic Association's Committee on Economic Education *(4)*. Its purpose was to determine the contribution of these texts to economic understanding.

In all texts examined, the treatment of economic matters was found to be primarily descriptive and generally inadequate. Errors of fact, misconceptions regarding basic economic relationships, poor balance, and heavy ethical overtones were found to appear with discouraging frequency. They contain numerous examples of unsupported generalizations and conclusions, and fail to provide any consistent and effective use of economic analysis. A number of topics, crucial to a reasonable understanding of the economy, are omitted altogether. Little effort is made to indicate relationships between facts and concepts or to help students become aware of a framework into which the facts may be fitted.

The Report of the Materials Evaluation Committee *(2)* constitutes a kind of response to this situation. It was prepared to meet the need for supplementary materials in the study of economic matters in the high school and the problems teachers face in selecting useful items from the many auxiliary materials available. It attempts to implement the Report of the National Task Force and the AEA Textbook Study by supplying teachers with a carefully selected and annotated list. The Committee was selected by representatives of major professional associations to appraise the materials collected and to select those items most useful for teaching economic concepts in high school. Materials from which selections were made were gathered by requesting every known source of such material to submit relevant items. Over 7,000 items were obtained, ranging from single-page leaflets to heavy volumes of formidable reports. From this collection, nearly 100 were recommended and annotated in the report of the Committee. A selection of some 40 of these items was reproduced in quantity and distributed to all high schools in the country together with a copy of the full report. Plans are now under way for a continuing evaluation of supplementary materials.

Toward Wider Literacy

In the area of visual aids, a similar evaluation of films in economic education was sponsored by the Joint Council and recently published under the title, *One Hundred Selected Films in Economic Education.* An evaluation of filmstrips is now under way and should be available early next year.

Still another step, now in progress, is the development of a year's TV course in economics telecast (1962-1963) on CBS's *College of the Air.* The course, entitled "The American Economy," involves 160 half-hour sessions Monday through Friday each week during the academic year. The National Task Force on Economic Education, the American Economic Association, and the Joint Council on Economic Education are cooperating with the Learning Resources Institute in developing the course and serve as its co-sponsors. In addition, the Task Force functions as an advisory committee to the television teacher. A substantial portion of the telecasts are devoted to problems of implementing economic education in the public school classroom. Through this program, an opportunity is available for every teacher of social studies, business education, and related areas to strengthen his background in economics.

Efforts to improve evaluation represent still another dimension of assistance to teachers in increasing economic understanding. Through the sponsorship of the CED, the Joint Council on Economic Education has established a national committee for the purpose of developing tests of basic economic understanding. When completed, these tests, designed to provide teachers with useful instruments for appraising student achievement, will be made available as part of the total program to improve economic education in the schools.

But if any effort is to be successful in education, educators must be assured that community support is present and audible. To assist in arousing the interest of the community, the Committee for Economic Development has published a policy statement, *Economic Literacy for Americans: A Program for Schools and for Citizens.* In this statement, the need for, and obstacles to, economic education are detailed, and a course for community action is recommended. Educational leaders are likely to find this document helpful in rallying public support for present or future programs in economics.

Still to Do

For the next several years, economic education will be influenced importantly by recommendations embodied in the Task Force Report. The national television course, the textbook study, the materials evaluation study, the design of new tests of economic understanding, the policy statement of the CED—all these bear witness to the already strong influence of this report.

The recommendations of the Task Force, however, are in the nature of a broad statement of goals and objectives to be sought. They offer no "bill of particulars," no "tool kits," no short, simple set of instructions on "how to do it." The Task Force makes no pretense of developing fully the points they suggest. Nor do they attempt to specify how the material should be presented in the schools. A number of conceptual and methodological questions will also require explicit discussion if the report is to have a continued impact of a desirable kind.

This unfinished business now belongs to those schools and their consultants who work at the stage of putting certain broad recommendations into a viable and concrete program. Some of these questions involve an interpretation of the report, others its implementation. The sense of direction will be vague, and attempts at curricular change will be characterized by confusion and frustration if these questions are not anticipated and discussed.

One such question deals with the content of economics as a social science and the content of economics as essential equipment for citizenship. Conceivably, these two conceptions, though basic, are not the same. A third possible meaning of "basic economics" is that content which is believed to be within the learning capacity of all high school students. It is not yet clear whether schools can best work with a content that is primarily basic to citizenship, to the nature of economics as a social discipline, or to the needs, interests, and capacities of high school youth.

Recent innovations in the content and teaching of science and mathematics have made curriculum leaders sensitive to the structure of intellectual disciplines and the teaching of such structures as a goal of public education. Teaching students to think like physicists is coming to mean teaching them the basic structure of physics. The learning of this structure appears to have very little immediate connection with problems of everyday living.

When the Task Force urges that high school students learn to think like economists and to make use of the analytical tools of economists, does it have in mind a notion of structure that would convey the basic nature of economics? This is an interpretation that some readers may make. Yet this meaning could be in conflict with the stated purpose of the report, which is to ". . . sketch the minimal understanding needed for responsible citizenship."

The report suggests not only that its outlined content is basic to effective citizenship, but also that every high school student can learn it to some extent. This raises a question regarding the extent to which the actual selection of recommended content was influenced by what the Task Force perceived the learning capacities of high school students to be.

The task of outlining basic content, whether it be basic to citizenship or to an intellectual structure, is logically different from the task of determining what content a given group can learn. Each task can best be performed by ignoring the other. If those who outline basic content concern themselves with what Johnny can learn, they may include content that is not basic, or fail to include some that is. If we want to know whether high school students can learn the content recommended by the Task Force, we must experiment with curriculum and method under conditions that provide answers more certain than those available from the comfort of an armchair.

It is clear that the Task Force employed three criteria in its selection of content. It would be helpful to curriculum innovators, however, if they were aware of the relative impact of each criterion on the selection of content. Readers of the report would have been less perplexed on this point had the Task Force stated clearly its criteria for choosing between "essential" and "nonessential" content.

Priorities and Emphases

The outlined content approximates an abbreviated summary of the standard college textbook in principles of economics, and this may have been the primary meaning of basic content employed by the Task Force. Some teachers may infer that the job of implementing economic understanding in the schools is largely a matter of watering down the standard college course to high school size. Some may even attempt to teach within a one-semester high school course the entire range of content covered by the report. Either mistake could be avoided by setting up priorities on the basis of which to decide what to omit or what to emphasize. The report includes few such priorities, however, and teachers will find little assistance regarding topics which may be omitted or how much time to devote to those which are included. Nor is there any indication that the effective teaching of a particular concept may require students first to understand a number of other concepts.

Reluctance to impose a rigid pattern on the schools is understandable, but the preparation of teachers as described in the report suggests a need for guidance on questions of priorities, emphases, and sequences of presentation. Consequently, a difficult job lies ahead for economists and educators. In order to translate Task Force recommendations into effective classroom practice, one of the most urgent needs will be to reorganize, restate, and structure the content of economics in a manner appropriate for the public schools.

In a related fashion, in its preference for conceptual content over sheer information and for analysis over description as a method of teaching, in decrying the current emphasis upon economics as personal adjustment and favoring the objective treatment of controversial issues, the Task Force confronts the high school with what Professor Broudy *(1)* has called "the dilemma of general education." General education, Broudy says, has been defined in two ways. One definition emphasizes content that is widely applicable. Such content is theoretical-conceptual, and many public schools have assumed that it is not possible to teach this kind of content in any thorough and meaningful sense except to a handful of their students. General education in these terms, while general in its application, is general to only a few students. A second definition of general education emphasizes factual, descriptive, informational content which experience proves that most high school students can learn passably well. But this kind of content is not widely applicable. Its transfer value is so low that most students use it only for passing school examinations of a certain type. Moreover, the content is seldom retained for more than a few weeks, an additional reason for its limited applicability in out-of-school situations.

Those who work daily at the job of education have desired a definition of general education that is *both widely applicable and generally learnable*. The Task Force, through its emphasis on concepts, principles, theories, and analysis, rather than on isolated bits of information (although there is no neglect of factual information and the history of institutions), therefore, poses a fresh challenge to the schools. Can they teach successfully such content to a large percentage of their students? If not, should the schools provide study in economics for all students, or only for all who can learn at a certain level of abstraction?

Comprehending Concepts

Although the report seems to be saying, "This content is basic to effective citizenship, and we think it can be attained by high school students," a certain faintheartedness is suggested when the Task Force observes that it does not expect ". . . all students in all schools will have the opportunity (and some will not have the ability) to absorb all that is suggested here. . . . The total body of material presented here represents an ideal which the high schools should seek to achieve for the largest possible number of students." If this qualification refers to the fact that in any high school course there will be some students who cannot absorb all the content that, ideally, a teacher would desire, or that, in any class, students will vary widely in their levels of concept attainment, then the observation is trivial and superfluous. A more charitable interpretation suggests some reservations on the part of the Task Force regarding the ability of high school students to benefit from exposure to all its recommended content.

In this connection, one comment of the Task Force upon the appropriateness of the recommended content for any but the superior student may be noted. In a footnote on page 30, one reads the following warning about the economic law of diminishing returns:

> Here, *as in many cases*, how precisely the economic principle is stated should depend upon the quality of the students and on the course in which the material is presented. Instructors can readily find more precise statements in college textbooks, or in the better ones prepared for high school use. More precise analysis is desirable for superior students, but a rough statement can serve a useful purpose for most students. (italics added)

This passage could be interpreted to mean that only the gifted can be expected to understand the law of diminishing returns, and that for most students some vague idea of what it is all about is all that can be hoped for. Those readers who equate precision of statement with clarity of communication may wonder how an inferior intellect can be expected to learn anything from a "rough statement" that he could not learn more readily from a precise one. To such readers, the report may seem to turn pedagogy upside down, recommending careful precision for students who learn easily and vague generality where other students are concerned. It is all too possible that the practice of this kind of pedagogy by instructors in college courses in introductory economics accounts in no small measure for the ineffectiveness of such courses.

Conceptual content can probably best be understood by any student if it is taught by a method that requires him to analyze quite precisely whatever it is that is being taught. A report that recommends that high school courses in economics begin to emphasize conceptual content can consistently do nothing other than to recommend the most precise treatment possible for that kind of content. Again, setting of priorities is of utmost importance if, within a one-semester course, time does not permit precise treatment of all concepts. But to accord to any concept less than the most precise treatment possible is to make that content more difficult for all students than it needs to be. There can be no solution to Broudy's dilemma in general education except as schools develop methods that make the attainment of conceptual content as easy as possible.

Logic and Economic Analysis

The report's preference for analysis over description raises this question: What are the problems and possibilities of teaching both logic and substantive economics within a high school course? One of the strongest features of the report is the repeated claim that analysis is necessary to economic understanding. In its espousal of objectivity and the values of studying controversial issues, the Task Force is courageous and sound. It is not always clear, however, whether they see analysis merely as a means to achieve economic understanding or whether they also regard the practice of reflective thinking as a way of acquiring logical skills which can then be transferred to the examination of problems and issues in areas other than economics. Some support for such a theory of transfer is suggested by the following (pp. 13-14):

> In this connection, we believe that training in economic analysis does more than just contribute to the students' understanding of how our economic system operates. As we emphasize repeatedly in these pages, the development of economic understanding involves first and above all the capacity to think *rationally* about economics. In this respect, the teaching of economics can make an important contribution to the student's mental develop-

> ment. It is in the field of the social sciences —with respect to social, political, and economic questions—that the high school graduate's ability to reason clearly and objectively is probably weakest.

This passage seems to say that students who *practice* logical reasoning in their study of economics will acquire an understanding of both logic and economics, and that through transfer, they will come to the habit of thinking logically about a variety of problems in addition to those studied in economics. Even if one could assume transfer from practice alone, the degree of generalization would depend in part on whether other social problems, broadly considered, are similar in structure to economic problems, and whether a common approach and methodology for the analysis of social, political, and economic questions can be found in logic, scientific method, and philosophy of science.

If this common approach and methodology exists, it might well be studied in its own right, not merely practiced within a process called economic analysis. It is by no means certain that students who *practice* logic in an economics course will *learn* both logic and economics and also be able to apply logical reasoning to social problems outside the economic domain. In fact, the evidence points quite in another direction. Students will not acquire by osmosis, or as a painless by-product at no extra cost, the logical principles embedded within economics by only absorbing the economics. If this methodological content is to be learned from a process more consciously reflective than the direct practice of economic analysis, the question then becomes whether this content is to be learned within an economics course or in a separate course, and if in a separate course, whether it is to be prerequisite or stand in some other relationship to economics.

Economics in History

Closely related to the problem of teaching logic as a by-product of economics is the question of teaching economics through other courses in the curriculum, particularly history. Because history dominates the high school social studies curriculum, the total field of social science is not as well represented as it needs to be. As a result, heavy pressure is being exerted from a number of directions to integrate material from neglected areas into history. Although a strong case can be made for teaching more economics through history, there are many troublesome questions which have yet to be answered, only a few of which can be hinted at here.

The curricular preëminence of history is accompanied by an interpretation of history that values description, chronology, and biography over the more analytical forms of content. Economists have a distinctive way of thinking, as do historians. While the two thoughtways vary in certain essentials, it cannot be concluded that an attempt to pile one way of thinking upon another would be impossible or even undesirable.

The report of the Task Force is on solid ground when it assumes that high school students cannot acquire all the economic understanding necessary to effective citizenship from either a one-semester course in economics or through an emphasis on economics in other courses. Rather, it urges a coordinated program with a high degree of articulation among all relevant courses in the high school curriculum. Suggestions for achieving this objective, however, are neither specific nor extensive. It may well be possible to design a course in history, for example, with a substantial emphasis upon economic analysis without any great sacrifice of other values prized by historians. Certainly, the attempt should be made. But the contours and problems of such a course are scarcely suggested by the report. Their investigation is still another piece of unfinished business to be solved by those schools and their consultants who attempt an implementation of this part of the Task Force recommendations.

Finally, the Task Force urges professional economists to overcome past reluctance to help public schools raise the level of economic education. It chastises them for paying too little attention to the teaching of economics below the college level. Not much is said, however, about the need for professional economists and educators to achieve a continuing cooperative relationship with the public school and its curriculum problems. It is even possible to infer from the report that implementing the report is primarily the job of professional educators and classroom teachers, that their role is simply to carry out the suggestions of economists.

Implementing economic education in the schools demands the combined services of highly trained economists, familiar with theories of curriculum, method, and learning, and sensitive to the difficulties of teaching economics at the secondary level; it equally requires well trained educators with a concern for content and disciplined thinking. A division of labor which farms out the determination of content to economists and problems of curriculum and method to educators is unlikely to be successful because of the indivisibility of method and content in the educational process.

If economists and educators are to achieve a cooperative and coordinated effort, each must overcome their prejudices. Neither can afford to by-pass or dominate the other. In the early history of economic education, the movement was perhaps too much under the domination of professional educators. There are signs at present that professional economists have moved into control of most of the commanding heights and that the movement may be drifting away from the cooperative leadership that promises the most in the way of significant and lasting results in curriculum improvement throughout the grades.

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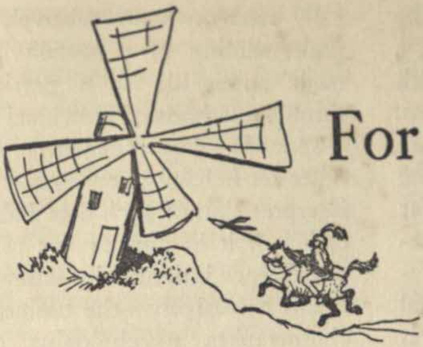

For the Record

Dilemmas of guidance

Few enterprises within the domain of education are as charged with a humane regard for the individual student and his development both through and beyond the school years as is the congeries of activities called guidance. Within the framework of mass education, entailing the realities of crowded classrooms, diverse and burgeoning populations of pupils, and increasing demands for curricular expansion to keep pace with the explosion in sheer knowledge, it is "guidance work" which maintains a focus on the *person* as the irreducible unit of the school's effort in a pluralistic society that prizes freedom. Few things are more important. But when one asks what "guidance work" is—What unity of a definitive kind binds together the activities of people who call themselves guidance workers?—the answer is far from apparent; and it is by no means immediately forthcoming from the numerous texts that have been published in the field.

The search for an understandable concept of guidance may begin with two observations: the recognition of individual differences as a fundamental fact of psychological and social life, and the tendency, as society becomes more complex and to demand more specialized training for occupational success, for institutions to provide services that may increase the probability of one's making effective choices among the options open to him. For example, in the light of his own distinctive characteristics, how can a youngster best choose from among the available alternatives a course, a school or college, a job, a career? It is no accident that the guidance movement is usually dated from the founding by Frank Parsons in 1908 of the Vocational Guidance Center in Boston. The salutary fitting of men to jobs was one of the first applications of the then relatively new study of individual differences, and vocational service of this sort has remained a mainstay of guidance in general.

It soon became apparent, however, that a job is far more than a matter of economic necessity. A man's work intimately affects his feelings of self-worth and bears on the degree to which he feels he has a focus for his talents and creative propensities. It determines in large part the people with whom he spends his time and, consequently, the character of much of his social life. It demands emotional investments from him that are closely related to the attitudes and values which influence his stance toward other aspects of his world; and his occupational life interacts significantly with his life as a family man, a political man, a man with other interests, capacities, and concerns.

On this basis alone (and there are many others), it is easy to understand the extension of guidance activities far beyond the circumscribed realm of vocational matters. To guide a person helpfully toward a satisfying occupational selection or the wise choice of a career is to become involved with his entire developing personality; and once such an involvement is admitted, there is no reason for practitioners of guidance to avoid issues bound up with an individual's social conduct, the way he expresses his feelings and attitudes, and the character of his aspirations. Of necessity, guidance is forced to take all—or nearly all—of human development as its province.

As a result, there is an abundance of such statements as the one in the 1955 *Yearbook* of the Association for Supervision and Curriculum Development: ". . . we view guidance as relating to *all* those things which adults do consciously to assist an individual child to live as fully and effectively as he is able" (italics added). An all-encompassing concept, to say the least! Peters and Farwell echo it: "Guidance as an educational construct involves those experiences which assist each pupil to understand himself, accept himself, and live effectively in society . . . in addition to (his) having experiences about the world of the past and the world in which he lives."

The primary device by which guidance workers have attempted to fulfill such large ambitions is that of counseling. Whatever else it may be, counseling is a deliberate effort by one person to influence the behavior of another in presumably helpful ways through some form of usually on-going face-to-face relationship. As a technique of influence, it typically rests on some relatively extensive understanding of personality dynamics, made applicable to a particular case through methods of individual assessment —records of performance, anecdotal notes on behavior, test scores, etc. The interpretation of such data and the application of it in consultative relationships of influence is definitely—although by no means exclusively—the business of psychotherapists, psychologists, and other highly trained professionals who ordinarily find it a difficult and even harrowing venture, shot through with uncertainties and ambiguities that press them to and even beyond the limits of their knowledge and their skill. The experience of psychiatrists, clinical psychologists, and others of comparable training suggests that the burden of another person's development is not one to be assumed lightly.

This observation brings us to a major dilemma that besets the guidance effort. It may be objected, of course, that the experience of those who practice the clinical arts is not relevant because they are primarily concerned with deviant personalities, whereas "guidance" applies to all children and youth. It must be remembered, however, that "all" includes the deviants; and more importantly, if we think of deviation in terms of traits, behavioral processes, and more or less time-bound problems, rather than in terms of *people*, we are confronted by the fact that most of us mortals are troubled by characteristics which are disturbing to ourselves or to others and which are thoroughly relevant to the issue of making personally wise decisions as we move through our life spans. Worrisome complexities of personality cannot be cavalierly put aside simply because they occur in persons who need not be technically described as neurotic or otherwise pathological.

The dilemma remains: By taking all human development as its province, guidance has accepted an obligation that neither its programs of training nor the rewards available to it in money or prestige permit it to fulfill. On the one hand, it agrees to do "*all* those things . . . to assist an individual child to live as fully and effectively as he is able" through providing experiences which enlarge his capacity "to understand himself, to accept himself, and to live effectively in society"; on the other hand, it lacks a clear-cut rationale for clarifying the meaning of these noble terms, a well developed set of methods for achieving them within the settings that the school provides, a system of training that would effectively inculcate the necessary skills (were the necessary skills clearly identifiable), or a *Zeitgeist* which offers adequate incentives for appropriately talented people to enter the field at full professional levels. Although the words are harsh, the sense is generally accurate: Guidance is far less a profession than it is a good-willed point of view abetted by a degree of technicianship. Its problem is that of sustaining and fulfilling enormous (and thoroughly laudable) ambitions without the resources for doing so in knowledge, personnel, or social support.

It is worth noting, for example, that the ideas and information upon which guidance workers necessarily rely is essentially borrowed. Theories of personality, the concepts and techniques of personal appraisal, and the ideas and insights that make counseling a form of developmental service rather than merely a form of social conversation—all these come directly from psychology. Are guidance workers applied psychologists? Most of them say no, and certainly they have not typically been trained in ways that make them recognizable as such to their psychological confreres. Their understanding of the world of work and of the subcultural and social-class backgrounds of their pupil-clients is derived from sociology, but guidance workers quite properly make no claim to be sociologists. Such a state of affairs contrasts sharply with that obtaining in those enterprises that are the virtual touchstones of professional status. Medicine is hardly applied physiology; law is certainly not applied social science, and engineering is far from being merely an application of physics. Guidance struggles with the dilemma posed by professional yearnings without a professional base in a distinctive and ever-growing body of knowledge.

If it is troubled by a sandy foundation in knowledge, guidance is also beleaguered by a less than optimal source of personnel. Most guidance officers at the moment are people who have been (and often still are) classroom teachers. Not infrequently, they have come into their present positions through seniority, appropriately timed expressions of sincere interest, or the sheer circumstances of the school system in which they work. By professional standards, their training tends to have been skimpy and eclectic, sometimes focused to a rather startling degree on housekeeping functions—the maintenance of records, the arrangement of schedules, the development of test files and libraries of occupational information, and the administration of guidance services in relation to other educational functions. Where counseling is regarded as the primary technique of guidance, it is strange to find few opportunities for workers-in-training to develop their skills under extended and close supervision in practica that are well supplemented with seminars devoted to the theory and research germane to personality dynamics and the complex interactions of the counseling room. Summer workshops, for instance, are simply inadequate to the cultivation of counseling ability at a high level. In neither its selection procedures nor its training efforts does guidance characteristically exhibit the rigor or intensity that mark the professions. A zeal for undoubtedly desirable goals is disturbingly offset by a lack of regard for professional selectivity or a professional preference for competence over charisma.

Similarly, the social support for guidance seems to stem more from a relatively thoughtless, occasionally even somewhat desperate, demand that the schools assume more and more responsibility for the over-all socialization of young people as other institutions decline in their effectiveness on this score, and from an impulse to harness the schools to particular national goals of the moment—like the encouragement given to guidance workers by the National Defense Education Act to identify and cultivate those human resources that are currently looked upon as of greatest moment in the cold war—than from any full appreciation of the goals of guidance and the granting of a full mandate to pursue them. In the minds of many, guidance is still a "frill" in our educational system, and it enjoys a happier status only when it can be induced to concern itself with problems which are defined from outside itself—reducing the incidence of delinquency in the community, stimulating promising scientists to continue their education, facilitating the referral of disturbed children to other agencies than the school, etc. Obviously, there is nothing whatsoever that is objectionable in either these kinds of tasks nor in guidance workers' playing a significant role in them. What is relevant here is that guidance benefits from public support primarily when it directs its labors toward specific ends other than those of its own determination. This situation, markedly different from what is typical in the true professions, reflects both a dubious base for guidance in public understanding and something of a chaos of *specific* goals, as opposed to its general point of view, within its own organization and collective self-concept. On the one hand, social support comes only from meeting social needs as they are defined by agencies that are *not* themselves part of the guidance movement; on the other, professional status is attainable only through the identification from *within* the movement of reasonably clear objectives, together with the means to achieve them, that will *command* public endorsement.

There is more—much more—to be said about the dilemmas of guidance. Perhaps what is offered here, however, may be enough to stimulate some imaginative reconsideration of the place of guidance in American education. Standing, as it does, for the individual as the ultimate criterion of value, it represents an enterprise that must not be weakened through a failure to achieve the highest standards of excellence. This point is as cogent for education in general as for guidance and guidance workers themselves.—EJS

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A model of school learning

THE PRIMARY JOB of the educational psychologist is to develop and apply knowledge concerning why pupils succeed or fail in their learning at school, and to assist in the prevention and remediation of learning difficulties.

This job is inherently difficult because behavior is complex and has a multiplicity of causes. To deal with it, educational psychologists have evolved a number of concepts which they find useful in classifying the phenomena of behavior. Textbooks in the field are commonly organized around such concepts as maturation, individual differences, learning, thinking, motivation, and social development. These are useful categories, but because they overlap or refer to different levels of organization in the subject matter, it is difficult to build them into an integrated account of the process of school learning. What is needed is a schematic design or conceptual model of factors affecting success in school learning and of the way they interact. Such a model should use a very small number of simplifying concepts, conceptually independent of one another and referring to phenomena at the same level of discourse. It should suggest new and interesting research questions and aid in the solution of practical educational problems. With the aid of such a framework, the often conflicting results of different research studies might be seen to fall into a unified pattern.

Many such formulations, perhaps, are possible. A conceptual model will be presented here that seems to have the advantage of comprehensiveness combined with relative simplicity. The model is amenable to elaboration, but for our immediate purposes, we will leave aside any such elaborations.

Scope of the Model

We need first to define *learning task.* The learner's task of going from ignorance of some specified fact or concept to knowledge or understanding of it, or of proceeding from incapability of performing some specified act to capability of performing it, is a learning task. To call it a task does not necessarily imply that the learner must be aware *that* he is supposed to learn or be aware of *what* he is supposed to learn, although in most cases it happens that such awarenesses on the part of the learner are desirable.

Most, but not all, goals of the school can be expressed in the form of learning tasks or a series of such tasks. Teaching the child to read, for example, means to teach him to perform certain acts in response to written or printed language. Examples of other learning tasks taught in the schools can be multiplied at will: learning to spell all the words in common use, learning to perform certain operations with numbers, learning to explain or otherwise demonstrate an understanding of the subject matter of biology, learning to speak a foreign language, learning to perform in competitive sports, and learning to carry out certain responsibilities of a citizen. Some of these tasks are very broadly defined, such as learning to read printed English, but we can also consider narrowly defined tasks like mastering the content of Lesson 20 in a certain textbook of French, or even mastering a certain grammatical construction covered in that lesson. The model presented here is intended to apply equally well to all such tasks, no matter how broad or narrow. It is required, however, that the task can be unequivocally described and that means can be found for making a valid judgment as to when the learner has accomplished the learning task —that is, has achieved the learning goal which has been set for him.

It will be seen that as many as possible of the basic concepts in the model are defined so that they can be measured in terms of *time* in order to capitalize on the advantages of a scale with a meaningful zero point and equal units of measurement. An effort is made to provide for a mathematical description of the degree to which a learning task is achieved. Although the model applies only to one learning task at a time, it should be possible in principle to describe the pupil's success in learning a series of tasks (*e.g.*, all the work of the fifth grade) by summating the results of applying the model successively to each component task.

The model is admittedly oversimplified. The assumption that the work of the school can be broken down into a series of learning tasks can be called into question. In actual school practice, the various tasks to be learned are not necessarily treated as separate and distinct, and the process of teaching is often organized (whether rightly so or not) so that learnings will take place "incidentally" and in the course of other activities. Nevertheless, a conceptual model requires certain simplifying assumptions, and the assumption of discrete learning tasks is a useful one to make.

The model can be regarded as applying even to those educational goals ordinarily formulated in terms of "transfer"—that is, the ability to apply in a "new" situation something learned previously. The concept of the learning task is defined to include the attainment of that degree of competence which will make "transfer" essentially as automatic as demonstration of performance in the original setting. "Transfer," correctly viewed, is a term in a metalanguage which states the conditions under which particular learnings occur or manifest themselves. Thus, when we say that "learning which occurred in situation A transfers to situation B," we are really saying that "something learned in situation A also manifested itself in situation B, there being sufficient commonality between the two situations to elicit the learned performance in both."

The model is not intended to apply, however, to those goals of the school which do not lend themselves to being considered as learning tasks. Such, for example, are those goals having to do with attitudes and dispositions. Educating a child so that he has tolerance for persons of other races or creeds, respect for parental or legal authority, or attitudes of fair play, is thought to be largely a matter of emotional conditioning or of the acquisition of values and drives. Learning tasks may indeed be involved in the cognitive support of such attitudes (as where the child learns facts about different races or creeds), but the acquisition of attitudes is postulated to follow a different paradigm from that involved in learning tasks. Perhaps the distinctions made by Skinner (*6*) are of use in this connection: We could say that whereas learning tasks typically involve "operants," the attitudinal goals of education typically involve "respondents."

Overview of the Model

Briefly, our model says that the learner will succeed in learning a given task to the extent that he spends the amount of time that he *needs* to learn the task. The terms of this statement, however, require special definition, explication, and interpretation if the statement is to be properly understood.

First, it should be understood that "spending time" means *actually spending time on the act of learning*. "Time" is therefore not "elapsed time" but the time during which the person is oriented to the learning task and actively engaged in learning. In common parlance, it is the time during which he is "paying attention" and "trying to learn."

Second, there are certain factors which determine how much time the learner *spends* actively engaged in learning.

Third, there are certain factors which determine how much time a person *needs to spend* in order to learn the task. These factors may or may not be the same as, or associated with, those which influence how much time he spends in learning.

The major part of this article is devoted to a presentation of the factors conceived as determining the times needed or actually spent in the course of a learning task and the way in which these factors interact to result in various degrees of success in learning. Four of these factors are convenient intervening variables or constructs which may, in turn, be regarded as functions of still other factors or variables; one, however, is in principle a directly manipulable and measurable factor ("opportunity").

This model of school learning should not be confused with what is ordinarily called "learning theory," that is, with the exact scientific analysis of the essential conditions of learning and the development of systematic theory about this process. Rather, the model may be thought of as a description of the "economics" of the school learning process; it takes the fact of learning for granted.

The five factors or variables in the model will be presented under two headings: (1) determinants of time needed for learning, and (2) determinants of time spent in learning.

Time Needed in Learning

Aptitude. Suppose that a randomly selected group of children is taught a certain learning task by a teacher (or teaching device) with the best possible teaching techniques. Suppose further that each child is willing to stick attentively with the learning task for the number of minutes, hours, or days required for him to learn it to the specified criterion of success, and that each child is in fact given the opportunity to do this. Common experience, as well as abundant research evidence, suggests that the amounts of time needed by the children even under these ideal conditions will differ widely. Let us think, then, of the amount of time the pupil will need to learn the task under these conditions as the primary measure of a variable which we shall call his *aptitude for learning this task*. In ordinary parlance, learners who need only a small amount of time are said to have high aptitude; learners who need a large amount of time are said to have low aptitude. Some learners, it may be, will never learn even under these optimal conditions; we may say that these learners would need an indefinitely large (or an infinite) amount of time to learn the task.

It will be noted that this variable is measured in the opposite direction from the usual way of measuring aptitude—

the shorter the time needed for learning, the higher the aptitude.

Furthermore, it will be noted that the measure of aptitude is specific to the task under consideration. Aptitude may be regarded as a function of numerous other variables. For one thing, it may depend upon the amount of prior learning which may be relevant to the task under consideration. A learner who has already progressed far towards the mastery of a task may not need much time to complete his learning. On the other hand, aptitude may also depend upon a series of traits or characteristics of the learner which enter into a wide variety of tasks; whether these traits can be accounted for solely on the basis of generalized prior learnings, or whether they reflect genetically determined individual characteristics, is of no immediate concern here. It may be useful, however, to conceive that a learner's estimated needed time, a_t, for learning a given task, t, may be written as a mathematical function of a series of basic aptitudes, symbolized with Greek letters and subscripts, minus the amount of time, s_t, saved by virtue of prior learnings relevant to the task. Thus:

$$a_t = f\,(\alpha_1, \alpha_2, \ldots, \alpha_n) - s_t$$

The exact form of this formula would vary for different tasks. Presumably, the basic aptitudes $\alpha_1, \alpha_2, \ldots, \alpha_n$ could be measured with considerable exactitude by appropriate tests.

Ability to understand instruction. We find it useful to postulate as a variable separate from those we consider under "aptitude" the ability to understand instruction, since this variable (in contrast to pure aptitude variables) is thought of as interacting with the method of instruction in a special and interesting way. The ability to understand instruction could be measured, one would suppose, as some combination of "general intelligence" and "verbal ability"; the former of these two would come into play in instructional situations where the learner is left to infer for himself the concepts and relationships inherent in the material to be learned, rather than having them carefully spelled out for him, while the latter would come into play whenever the instruction utilized language beyond the grasp of the learner. The way in which ability to understand instruction is postulated to interact with the type of instruction will be explained after we introduce a third variable affecting time needed for learning, the *quality of instruction.*

Quality of instruction. One job of the teacher (or any person who prepares the materials of instruction) is to organize and present the task to be learned in such a way that the learner can learn it as rapidly and as efficiently as he is able. This means, first, that the learner must be told, in words that he can understand, what he is to learn and how he is to learn it. It means that the learner must be put into adequate sensory contact with the material to be learned (for example, one must insure that the learner will adequately see or hear the materials of instruction). It also means that the various aspects of the learning task must be presented in such an order and with such detail that, as far as possible, every step of the learning is adequately prepared for by a previous step. It may also mean that the instruction must be adapted for the special needs and characteristics of the learner, including his stage of learning. All these things may be summarized in what we call *quality of instruction.* This variable applies not only to the performance of a teacher but also to the characteristics of textbooks, workbooks, films, teaching-machine programs, etc.

Now, if the quality of instruction is anything less than optimal, it is possible that the learner will need more time to learn the task than he would otherwise need. Some learners will be more handicapped by poor instruction than others. The extent of this handicap is conceived to be a function of the learner's *ability to understand instruction.* Learners with high ability in this respect will be able to figure out for themselves what the learning task is and how they can go about learning it; they will be able to overcome the difficulties presented by poor quality of instruction by perceiving concepts and relationships in the teaching materials which will not be grasped by those with lesser ability.

For the purposes of this conceptual model, we shall say that the amount of time actually needed by a person to learn a given task satisfactorily is a function not only of aptitude (as defined previously), but also of the quality of instruction in so far as it is less than optimal. And the amount of additional time he will need is an inverse function of his ability to understand instruction.

We could, of course, apply Occam's razor and get rid of both of the two preceding variables by conceiving that a change in the quality of instruction causes an essential change in the learning task itself. In this case, we would deal only with a learner's aptitude for learning a given task, subscripted with the quality of instruction attached to it. Such a modification of our model seems undesirable, however, for one would tend to lose sight of instructional quality as one of the important manipulable variables in educational psychology.

Time Spent in Learning

Time allowed for learning ("opportunity"). It may come as a surprise to some to be told that the schools may allow less than adequate time for learning any task, but second thought will make one realize that this is very often the case. It is partly a consequence of the very large amount of material that the schools are expected to teach; the available time must somehow be distributed among many things. And it is partly a consequence of the very great variation that exists in the amounts of time that children *need* for learning, even under a good quality of instruction, and particularly when the instructional quality is such that many children of lower ability to understand instruction require much more time than they might otherwise need.

The school responds to differences in learning rates (for that is what differences in aptitude are) in many ways. Sometimes the policy of the school is, in effect, to ignore these differences; a certain amount of time is provided for everybody to learn, and no more. (For example, at some military academies, study time is prescribed and scheduled uniformly for all cadets.) At the opposite extreme is the case where each student is allowed to proceed exactly at his own rate; private instruction in music or foreign languages and self-instruction by teaching machine or other means are approximations to this case. The middle position is occupied by learning situations in which there is some kind of "ability grouping": Pupils are assigned to different groups, classes, or curricula on the basis of estimated learning rates.

Even when there is some constraint upon the amount of time "officially" provided for learning, teachers and instructional programs vary in the amount of time they allow for learning. Some programs present material at such a rapid pace that most students are kept under continual pressure; only the apter students can keep up with this instruction, while the others fall back or out, sometimes never to get caught up. In other programs, the instruction is paced for the benefit of the slower student. The faster student is fortunate if the teacher takes appropriate steps to "enrich" his instructional content; but this will not always happen, and it is undoubtedly the case that many fast learners lose some of their motivation for learning when they feel that their time is being wasted or when they are not kept at the edge of challenge.

Perseverance

Obviously, failure to allow enough time for learning produces incomplete learning. If a person needs two hours to learn something and is allowed only one hour, and if we assume that learning proceeds linearly with time, the degree of learning is only 50 per cent. Probably one of the most aversive things which a school can do is not to allow sufficient time for a well-motivated child to master a given learning task before the next is taken up. Children meet such frustrations by indifference or the more extreme avoidance reactions and are, in any case, handicapped in undertaking the next task.

The time the learner is willing to spend in learning ("perseverance"). The term *perseverance* is used here, rather than persistence, because of the somewhat pejorative connotations of the latter. Nevertheless, the concept is similar to what Paul Brandwein describes in the following passage:

> The characteristics grouped under the Predisposing Factor . . . include a spectrum of traits which the writer places under the head of *Persistence*. This is defined as consisting of three attitudes. (1) A marked willingness to spend time, beyond the ordinary schedule, in a given task (this includes the willingness to set one's own time schedules, to labor beyond a prescribed time, such as nine to five). (2) A willingness to withstand discomfort. This includes adjusting to shortened lunch hours, or no lunch hours, working without holidays, etc. It includes withstanding fatigue and strain and working even through minor illness, such as a cold or a headache. (3) A willingness to face failure. With this comes a realization that patient work may lead to successful termination of the task at hand (*1*, pp. 9-10).

But the variable of perseverance applies not only in the case of the "gifted student" and not only in the case of long durations of effort, but also to all other learners and also to learning tasks which require only short times for mastery. That is, in the general case, a learner who (in view of his aptitude, the quality of the instruction, and his ability to understand the instruction) needs a certain amount of time to learn a task may or may not be willing to persevere for that amount of time in trying to learn. It is not a matter of his predicting how long he will be willing to learn: we simply postulate that there is a certain time over and above which he will not continue active learning of a task, and this time may lie anywhere on the scale from zero to infinity. The learner may not be motivated to learn at all, or he may regard the task as something too difficult for him to learn; in either case, he may spend no time at all in trying to learn. He may start to learn and later become distracted or bored, or he may lose confidence in his ability. He may go far toward mastery and then overestimate his achievement, thus prematurely terminating his efforts to learn. He may, of course, be so highly motivated that he would be willing to spend more time than he needs in order to reach a specified criterion of mastery. Nevertheless, for the purposes of our conceptual model, it will be assumed that the learner will never actually spend more time than he needs to master the task as defined, that is, that he will stop learning as soon as he has mastered the learning task. (In this way we avoid, for the present, the necessity of incorporating a concept of "overlearning" in the model.)

This variable, which may be called *perseverance-in-learning-to-criterion*, is thus measured in terms of time, and if it is not sufficiently great to allow the learner to attain mastery, it operates in our conceptual model to reduce the degree of learning. Assume, as before, that learning proceeds as a linear function of time. Then if a child needs two hours to learn something, is allowed one hour, but will persevere only thirty minutes, the degree of learning is only 25 per cent. Perseverance-in-learning is measured only in terms of the amount of time the child is actively engaged in learning; a child who is actively engaged in learning for various periods totaling only thirty minutes during an hour is presumably not paying attention to learning for the other thirty minutes, and this time is not counted.

Perseverance-in-learning is itself a function of many other variables which will not be separately treated in this conceptual model. It is a function partly of what is ordinarily called "motivation" or desire to learn. But there are many reasons for desiring to learn a given thing: To please the teacher, to please one's parents or friends, to get good grades or other external rewards, to achieve self-confidence in one's learning ability, to feed one's self-esteem, to avoid disapproval—all these can operate *in place of* or *in addition to* any incentives for learning which may derive from the intrinsic interest or perceived utility of the thing being learned. And there are probably just as many reasons which one may adopt (consciously or unconsciously) for *not* learning: to avoid the responsibilities which learning brings, to avoid the exertion of learning, to behave consistently with one's image of oneself as a nonlearner, or to avoid wasting time on learning tasks of no perceived importance.

Perseverance-in-learning may also be a function of what are ordinarily called emotional variables. One may desire to learn but be unable to endure frustrations caused by difficulties in the learning task or distractions from external circumstances. It may also interact with the quality of instruction; poor quality of instruction may reduce perseverance-in-learning even beyond the toll it takes in wasted minutes or even weeks.

The Complete Model

It will be noticed that the model involves five elements—three residing in the individual and two stemming from external conditions. Factors in the individual are (1) aptitude—the amount of time needed to learn the task under optimal instructional conditions, (2) ability to understand instruction, and (3) perseverance—the amount of time the learner is willing to engage actively in learning. Factors in external conditions are (4) opportunity—time allowed for learning, and (5) the quality of instruction—a measure of the degree to which instruction is presented so that it will not require additional time for mastery beyond that required in view of aptitude.

Three of the factors are expressed purely in terms of time. If ability to understand instruction corresponds to a combination of general and verbal intelligence, it can be assessed in relative terms by currently available measuring devices. The most elusive quantity in this model is that called *quality of instruction*, but both it and the ability to understand instruction are interconnected with temporally measurable variables in such a way that by appropriate experimental manipulations, they could eventually be indexed in terms of time. Temporarily, let us put quality of instruction on a scale from

0 (poor) to 1 (optimal), and ability to understand instruction on a standard score scale with mean $= 0$ and $\sigma = 1$.

The five factors can be worked into a tentative formula which expresses the degree of learning, for the *i*th individual and the *t*th task, as a function of the ratio of the amount of time the learner actually spends on the learning task to the total amount he needs. Thus:

$$\text{Degree of learning} = f\left(\frac{\text{time actually spent}}{\text{time needed}}\right)$$

The numerator of this fraction will be equal to the *smallest* of the following three quantities: (1) opportunity—the time allowed for learning, (2) perseverance—the amount of time the learner is willing to engage actively in learning, and (3) aptitude—the amount of time needed to learn, increased by whatever amount necessary in view of poor quality of instruction and lack of ability to understand less than optimal instruction. This last quantity (time needed to learn after adjustment for quality of instruction and ability to understand instruction) is also the denominator of the fraction. It is not necessary or worthwhile here, however, to pursue the detailed mathematical formulation, which has been given elsewhere (*3*).

As an illustration of the usefulness of this model in clarifying other educational concepts, let us see how it provides a framework for interpreting the notion of "underachievement" as criticized by Henry Dyer (*4*). While we are at it, let us also look at the notion of "overachievement." It is our contention that these terms are useful and salvageable if properly defined.

Underachievement and overachievement, like underweight and overweight, are ordinarily taken with reference to some norm or baseline of expectation. The underachiever does poorer than we expect him to, and the overachiever does better than we expect him to. The issue is this: Upon what do we base our expectation? The approved manner of doing this is to make predictions from those tests or other measurements which in fact yield the best predictions of success, and statistical theory tells us how to make best use of these predictors (*i.e.*, by making our predictions along a regression line). There is, however, a paradox here. Suppose our predictions were perfect: Then there would be no "underachievers" and no "overachievers." An unlikely eventuality to be sure! Nevertheless, our intuitive rejection of the case of perfect prediction lends credence to the following analysis of what we mean by "underachievement": Underachievement is a situation in which there is a discrepancy between actual achievement and that expected on the basis of a certain *kind* of evidence—evidence concerning the "capacity" or "aptitude" of the individual to achieve in a particular context. Such evidence is recognized as being quite distinct from evidence concerning other factors in achievement, *e.g.*, "motivation," "opportunity for learning," etc., and these latter factors would not figure in forming our expectations. Instead, we would hope to gather as much evidence as possible concerning the "capacity" or "aptitude" of the individual, defined as his learning rate when all other factors are optimal.

Achievement and Expectancy

With reference to the conceptual model presented earlier, our expectation of an individual's achievement in a given learning task would in the strictest sense be that which he would attain when he spends all the time he needs—that is, when the ratio of the time spent to the time needed is unity. Anything less than this is, to some degree, underachievement.

From this point of view, *all* learners are underachievers unless they are superhuman beings in an ideal world. Perseverance sometimes flags; the quality of instruction is seldom optimal, and time allowed for learning is not always sufficient.

Let us, therefore, strike some sort of average for perseverance, instructional quality, and opportunity for learning. Our expectation of the degree of learning will be somewhat less than unity because, on the average, individuals will spend less time in learning than they need. And we may gauge underachievement and overachievement with reference to this expectation. In effect, this is what we do by the customary regression techniques based on aptitude measures, although in a less precise way than might be done if we were able to measure each of the components of achievement as stated by the model. In the framework of the model, however, underachievement is now seen to be a state of affairs which results whenever perseverance is less than some "reasonable value," whenever the quality of instruction is poor, whenever time allowed for learning has not been sufficient, or whenever some combination of these conditions has occurred. "Overachievement," contrariwise, may occur when there is an especially favorable combination of attendant events: high perseverance, instruction of high quality, or ample opportunity for learning.

We have a feeling about the relative amenability of different factors in achievement to manipulation or treatment: "Aptitude" is regarded as relatively resistant to change, whereas it is the hope of the psychologist that he can readily intervene to modify "perseverance," "quality of instruction," or "opportunity for learning." To some extent, this feeling is justified not only by logic but also by research findings—by the research on the apparent constancy of the IQ, on the effect of various instructional variables, etc. On the other hand, if aptitude is largely a matter of prior learnings, it may be more modifiable than we think, whereas, conversely, some kinds of clinical findings suggest that motivational characteristics of the individual may be much harder to change than one might think. These considerations, however, need not detract from the basic utility of the concepts of underachievement and overachievement. The concept of "underachievement" does not automatically imply the possibility of remediation any more than the concept of illness does. Some patients never get well, and some underachievers remain underachievers.

Babies and Bathwater

Henry Dyer (*4*) has drawn attention to possible dangers in the concept of underachievement—for example, the dangers of making predictions from unreliable or invalid predictors, of assuming that ability is innate or fixed, of making unwarranted inferences from school marks, and of overlooking determinants of school performance which are external to the pupil. Nevertheless, in suggesting that we kill the notion of underachievement, it would seem that he wants to throw out the proverbial baby with the bathwater. The concepts of underachievement and of overachievement are meaningful from both a statistical and a clinical point of view, as shown by the many fruitful studies of "underachieving" groups of students (*e.g.*, *5*). Careful attention to the elements of the conceptual model presented here will afford a safeguard against misuse of the concepts: Aptitude must be estimated by relevant and reliable measures (in actuality, all of them measures of past performance); the degree of learning must be accurately appraised, and the possible role of instructional variables must be considered. Above all, the variable which we have called *perseverance* must be validly assessed; the most direct evidence concerning it, our model would suggest, would come from observations of the amount of time the pupil actively engages in learning.

Before leaving this topic, let us consider another way in which the term "overachievement" is sometimes used. When a person is designated as an overachiever, it is often implied that his achievements derive more from his perseverance than from his aptitude or his intelligence. In terms of our model, this can occur when the learning task can be broken down into a series of subtasks of varying difficulty with difficulty roughly gauged in terms of average learning time. Because of his great perseverance, the overachiever masters to a criterion more of the *easy* tasks—tasks which are within the compass of his aptitude—than the student of average perseverance. While he may fail to learn some of the more difficult tasks, the net result may be a high score on an achievement test—a score considerably higher than predicted from aptitude measures. This concept of overachievement is distinctly different from the concept of overachievement suggested previously; responsible users of the term must clearly state which of these meanings they intend.

Future Research

Our conceptual model could lead, it would seem, to almost endless possibilities for research. It should provoke renewed effort to develop measures of each of the basic variables included in the model. The measurement of *aptitudes* is a fairly well advanced art, although the exact ways in which these aptitudes are relevant to school learning tasks remain to be worked out. The same remark may be made about the measurement of *ability to understand instruction*. But measurements of *perseverance* and of *instructional quality* are practically nonexistent. It should be intriguing to attempt to provide a general way of measuring *opportunity to learn*, that is, the actual time available to individual students to learn in view of the pacing of instruction; for it is our hypothesis that variations in the pacing of instruction have remained largely unrecognized in pedagogical discussions.

Research is also needed on the interactions of the several variables in the model. Is the model correctly put together? To what extent are the variables interdependent? For example, how does instructional quality affect perseverance? In what way is the degree of learning a function of the ratio of the amount of time spent in learning to the amount of time needed? Are we correct in postulating an interaction between instructional quality and ability to understand instruction such that pupils low in the latter ability suffer most from poor instructional quality?

One of the most exciting possibilities suggested by the model is that of being able to state parameters for different types of learning by learners of varying characteristics under stated instructional conditions. Perhaps ultimately such parameters could be tied back to the data of pure learning theory. One of the bolder hypotheses implicit in the model is that the degree of learning, other things being equal, is a simple function of the amount of time during which the pupil engages actively in learning. Psychologists have paid little attention to this variable of pure time in human learning. A recent experiment by Bugelski (*2*) is one of the few to consider time factors in the field of paired-associate learning; and interestingly enough, it supports the hypothesis that more parsimonious descriptions of learning may be obtained by use of time as a variable rather than, say, number of trials.

What is important to emphasize is that this conceptual model probably contains, at least at a superordinate level, every element required to account for an individual's success or failure in school learning (at least in the learning tasks to which the model applies). The explication and refinement of these factors and the exploration of their interactions constitute a major task of educational psychology. Its other major task is to account for those types of school learning (*e.g.*, attitudinal and emotional conditioning) to which the present model is not intended to apply and for which a separate model might well be constructed.

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Book Reviews

Kilpatrick, J. J. *The Southern Case for School Segregation.* New York: Crowell-Collier, 1962. Pp. 220. $3.95.

This partisan, heated book by a Virginia newspaperman strains to show that the Negro always has been "inferior," that the South justifiably wants generalized race discrimination, and that the 1954 Supreme Court Decision is wrong and bad. Kilpatrick's first section attacks individual scholars, from Franz Boas on, whose research supported the 1954 decision. Thus, "Miss" Ruth Benedict "girlishly cries," "is fairly transported," and "belong(s) in a . . . very small footnote." Ashley Montagu is "a monstrously irritating man." The "entire school of Franz Boas . . . holds . . . in some cases almost hysterically" that culture explains much Negro achievement. Gunnar Myrdal's "specious and shabby rationalizations based upon 'discrimination' simply will not hold up. . . ."

Kilpatrick never considers how Negroes, admittedly Americans, can be equably involved with the American society they helped create and support. Stressing Negroes' low scores on various formal tests, he never relates them to slavery and discrimination. He repeats conventionally that "The Negro . . . is entitled . . . to the same educational opportunities afforded his white counterpart," but separately, and that only here the South erred. The "facts" are that "the Negro race" has given civilization "virtually nothing," possibly in "consequence of innate psychic factors." Invoking Toynbee's opinions, Kilpatrick declares that comparing "the crude phallic fetishism of Negroid tribes with the highly developed art of the Mayan and Incan civilizations is to engage in a travesty upon critical judgment." Hence, southern schooling must and shall be different for white and black. Statements from the 1954 Decision and from Dr. James B. Conant are tortured to yield meanings in the author's support. Though programs are now arising, in northern and western cities, to train educators, pupils, and families for desegregation, Kilpatrick seems unaware of them. He quotes approvingly an observer of District of Columbia schools, "It is difficult . . . to find white teachers psychologically prepared to take jobs in predominantly Negro schools . . .," this "social revolution . . . would make the white child subject to Negro masters."

Kilpatrick's second section examines the constitutionality of the 1954 Decision. It "is necessary to examine the Constitution as it is, and not as centralizers might wish it to be." Did the Court have the right to abolish segregation? Answer: No.

The final section derides "the professional integrationist," for all southerners "continue to dwell amiably side by side," and "evolutionary change should commend itself. . . ." Though realizing that legal segregation is over, Kilpatrick shows ways out, like Virginia's "freedom-of-choice program" between public and private schools. He concludes, "The Negro says he's the white man's equal; *show me.*" Affirming that the South will have "essential separation of the races for years to come," he argues that as the Negro migrates elsewhere, "The South will not intrude its views. . . . This is . . . the freest country on earth. . . . The law has done what it can for Negroes. . . . The rest is up to time, and up to the Negroes themselves."

Lacking fresh ideas, this book cannot help educators and others who execute rulings about desegregation, who train the young for a freer society, and who hope to understand the complex issues. There is no hint here of the humanistic South reported by many southern novelists, scholars, and religious and other leaders, such as Lillian Smith, Lyle Saxon, Richard Wright, Howard W. Odum, W. J. Cash, Charles S.

Johnson, Martin Luther King. Of such people, Kilpatrick only says that they "annoyed the hell out of me."

RUTH LANDES
Claremont, California

Hodenfield, G. K. & Stinnett, T. M. *The Education of Teachers.* Prentice Hall, 1961. Pp. x + 175. $3.95.

The education for teachers of today's children and youth has been a controversial subject for far too long, considering its importance to our nation's welfare. The National Commission on Teacher Education and Professional Standards is therefore to be thanked for initiating the conferences which brought those vitally concerned with teacher education together to discuss the matter in a climate conducive to reasonable and intelligent consideration.

The book comprises a report by G. K. Hodenfield of the three major sessions—the first at Bowling Green, Kentucky, the second at Lawrence, Kansas, and the third at San Diego, California—and brief references to the additional seven regional meetings. A summary and analysis of the discussions is given by T. M. Stinnett in Part II. To a reader who was not present at any of the conferences, the total report has a ring of candor and fairness. Key controversial points are clearly presented, and where heat and intemperate views held sway, pungent quotations are included.

The main point at issue in teacher education over the years has been the relative emphasis to be given to professional courses and liberal arts courses. Because extremists abound in both camps, it was reasonable to expect that adequate attention be given in the opening conference to this question. It was also reasonable to expect such sticky matters as certification, accrediting, variations in standards within states, and teacher assignments to come rapidly to the fore. When evaluated in terms of what topics were discussed the report is good reading; when evaluated in terms of points too lightly touched or by-passed, however, it is disappointing.

Granted that the so-called "warring factions" brought together needed to be encouraged to put aside feelings of hostility and rejection, yet any bystander aware of the imminent importance of the topic and the impressive educational qualifications of the participants would have expected far fewer reciprocal placations and far more direct and creative efforts at resolution.

To a person close to classrooms, the entire discussion, except for a few points that seemed to be tossed in gratuitously, has a remote, unreal quality. For example, the crucial need in the secondary schools to develop teaching techniques that challenge today's youth, involve them in serious study, and inspire them to worthy ideals and a desire to continue their education was apparently not faced. If it was, it was not of sufficient importance in the deliberations to be recorded. But at the Kansas conference, there seemed to be "fairly general agreement that . . . elementary teachers need more courses in methods than do those preparing for high-school posts. . . ." The acute need to help teachers face difficult classroom situations was mentioned in the discussion on student teaching by Dr. Harry N. Rivlin, who described an excellent experiment started in 1960 at James Fenimore Cooper Junior High School in New York City. Perhaps more attention to matters of this kind was given than the report could convey.

There is no evidence that adequate attention was given in the meetings to needed research and on-going research in teacher education. Certainly, we remain far from certainty in many fundamental areas. Nuggets occasionally appear in *obiter dicta* on teachers and teaching; an example is by Harold L. Clapp: "If I had my way, all teachers would be wise, resourceful, humanly educated men and women with well furnished and disciplined minds, with scholarly competence in some one area of the liberal curriculum, with an irresistible zeal for setting young minds on fire to the limits of combustibility."

This is an exciting statement which demands an exciting program. Neither excitement nor a program seemed to emerge from the conferences. Nor is this surprising when one examines one thread of meaning which permeated the discussions recorded in the report. Teacher education in general was considered as a period of time, a series of courses, and a number of experiences whereby a teacher "got educated." The dynamics of firing them with a respect for children and youth, an eagerness to understand our society and contribute to it, a love of learning, a zeal to keep growing professionally, and a strong spirit of dedication to teaching— this was implied at times and stated by occasional individuals, but never managed to get into the mainstream.

Now that the differing camps have shared in reasonable and more respectably intelligent behavior, perhaps their next conferences will produce more vivid, creative, and usable results.

ROMA GANS
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Newsom, G. V. *A University President Speaks Out*. New York: Harper, 1961. Pp. 115. $2.95.

A University President Speaks Out is the product of the thinking of a man who has devoted many years—indeed, a life-time—to university teaching and administration. His teaching field is mathematics, but in his writing, he reflects considerable understanding and appreciation of psychology, history, and philosophy—subjects which he has studied as hobbies over the years.

The book consists of four chapters, the first of which is entitled, "Some Ideas on Educational Philosophy and Procedures." The remaining three chapters represent applications of these ideas to the "Problems of Today's Students," "Problems of Today's Parents," and "Problems of Educational Institutions, Especially Colleges and Universities."

The Chief point of emphasis in Chapter I is that a major function of education is to develop the talents of young people. Many educators would agree that our educational system often seems more concerned with courses, credits, and grades than with true excellence of performance. We have a wide range of individual differences among students and wide differences among colleges and universities in terms of the educational experiences they provide. The author takes a sound position when he says that we should do a better job of guiding students to enroll in institutions which can develop their individual talents, recognizing that society has need for a very broad range of human abilities and many kinds of excellence.

The major theme of Chapter II is that the student should receive a sound *basic* education, including the development of his powers of communication, the ability to deal competently with numbers, and the capacity to derive "appropriate conclusions" from the study of "facts and related principles." Newsom believes that recent years have witnessed excessive concern with general education and that the study of science and the study of values have been underemphasized. With regard to vocational planning, he urges a position which has been widely supported in guidance circles—that the student should be prepared to respond to his *changing* interests and capabilities, either by shifts within a vocation or even by changing to a different line of work.

In Chapter III, parents are admonished that one of their major responsibilities is to place the child in an environment where his talents can be developed. Research evidence supports Newsom's view that the type of home from which the child comes will determine to a great extent his habits of thought, his character, and his life goals. The importance of the home as an educational institution has particular relevance to any discussion of the education of women, for the mother is the chief "teacher" in the home. As the child matures, he should be given an increased measure of personal responsibility, including that of managing his money and of "going" instead of "being sent" to college.

Chapter IV, concerned with educational institutions, is probably the best of the four chapters. One of the interesting ideas set out here is that students should be permitted to pursue their special interests and that general education should develop from specialized study. This, of course, is the reverse of the situation which prevails in most colleges. The relevance of this notion to graduate education and continuing education is discussed. Finally, the author expresses his outlook on teaching and research, on the role of religion in education, and on the need for higher levels of financial support for education.

The general impression of this reviewer is that while the author has not hit upon a distinctly new philosophy or method of education, he has identified some very significant educational issues and given the reader the benefit of his wide personal observations and experience. The treatment of some topics (*e.g.*, the discussion of psychological tests) is a bit brief and superficial, but on the whole, the book is interesting and thought provoking. It should provide stimulating reading for faculty members and administrators who are interested in studying the problems of education and of evaluating their own practices and procedures. The book is not extensively documented and should not be regarded as a source book or survey. But in education as well as in other fields, a distinguished man's ideas deserve a hearing. This is the spirit in which the book should be read and studied.

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Pratt, J. C. *The Meaning of Modern Poetry*. Garden City, N. Y.: Doubleday, 1962. Pp. 400. $5.95.

This is a scrambled book, a TutorText prepared by the Educational Science Division of US Industries for those who wish to investigate modern poetry by themselves. As a self-help book, it has its shortcomings; as an exercise for the skilled reader, it is endlessly engaging.

One expects a programed book to set forth a series of propositions and to base later study of the field specifically on the earlier material. The author, a Captain in the Air Force, does introduce a series of definitions in the early pages of the text, but he fails to base his later teaching on his earlier propositions. In the first pages, the reader is introduced in rapid order to the metaphor, simile, implied simile, and symbol. These distinctions in terminology are then dropped for the remainder of the book, and the terms are used almost interchangeably. Even if there were no questions of the effectiveness of this as teaching, it would be an inferior use of the limited space in the book. If the reader consistently answers the questions correctly, there are too few functional pages in a scrambled book, and the reader who is familiar with these standard terms has lost valuable space without coming in contact with the peculiar problems of modern poetry. Since the Captain makes so little use of his distinctions, a better format could have been created by placing the definitions in an appendix and referring to it at an appropriate point in the text. The beginner would then have his introduction to the standard terms, and the more advanced reader, whose particular problem is the modern work, would find more instruction in these leaves.

There are minor rather than major difficulties in the latter sections. In one poem, Captain Clark is unsure whether the Virgin is "glorified." On one page she is; on another she is not. The prime difficulty with this occasional lack of a unified interpretation is that the reader is shunted to a review page for a mistake which the author later corrects. In another section, the Captain denies that, "There is a limit to a poem's meaning," but he reverses himself on the next page. He excuses himself once with the exclamation, "Semantics, semantics, semantics," but it seems reasonable to demand better precision. It may be an unknown proofreader's fault rather than the author's that the first nine lines of the Ferlinghetti poem on page 316 have been omitted.

In spite of these minor irritations, the latter part of the book contains a series of excellent and highly individual readings of difficult poems. Making the best use of his programed text, the author forces the reader to look up the references and allusions. When

Clark ignores some aspect of meaning, like Frost's classic Aristotelianism in "The Ovenbird," it is only because his personal interpretation directs the reader toward an equally valuable statement of meaning. His point that a knowledge of New England nature is as valuable for the reader of Frost as a knowledge of the classics is for the reader of Eliot is nicely made within the programed structure.

Regardless of its shortcomings as a teaching device *The Meaning of Modern Poetry* is valuable, and Captain Clark, by his studied disregard for the usual canons of modern criticism and by his highly individual readings and standards, is a crank of the most usefully provocative sort. One of the many direct statements he makes to the reader is, "I would enjoy talking to you." At times, the reader feels that he is conversationally locked in combat with the author, and Clark recognizes this; he closes saying, "I have made you angry and you by association have made me furious by your refusal to accept what I offer as truth." The combat is worthwhile. Captain Clark is an engaging conversationalist if the reader has the critical weapons which he needs for the fray.

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Barnett, G., & Otis, J. *Corporate Society and Education.* Ann Arbor: Univer Michigan Press, 1961. Pp. vi + 297. $7.50.

Perhaps Barnett and Otis deserve better than to have their analysis of the philosophy of Elijah Jordon reviewed by a sociologist. I must admit that I did not find this book easy reading. Their discussion presumes a considerable acquaintance with philosophical systems and a tolerance for the use of words in ways which depart from commonly accepted meanings.

The core of Jordon's philosophy is his view of corporatism and his concept of the corporate man. His position, according to Barnett and Otis, is that culture is superordinate: The key to understanding lies in recognizing that ". . . an individual is always a structure or unity of some form which is principled by or continuous with some larger order or whole as its law." In this view, neither the psychological nor the social counts; it is our obligation to culture that molds the corporate man and the corporate society. About half the book is a comparative analysis of philosophical thought in which Barnett and Otis, by appeals to both logic and the emotions, try to persuade the reader that Jordon's views are a most efficacious approach to understanding contemporary society. It is the frame for the discussion of education and educational practices.

Jordan contends that both the content and process of education must be derived from the cultural level, and he insists that there is a basic interdependence between education and the functioning of all aspects of the social system. Education should not be shaped by other community forces, and the educator must not be passive and continuously responding to the demands of community members. Jordan observes that, under current conditions, the educational process is faulty because culture, in his sense, is suppressed by the demands of interest groups in the community and by the sources of authority within the educational system. He further claims that the distinction between public and private education is artificial and ridicules the so-called "liberal" position, which maintains that the parallel development of private and public education provides balance, responsibility and control: ". . . the mixed system is a mixed-up economy, to education, or to any other act."

Jordan makes many recommendations for education and educators. But when he gets down to specifics, though perhaps derived from his philosophical thoughts, his views are not novel. He wants teachers to be finely educated men, the liberal arts college to be the heart of the educational program, college education to be grounded in logic and metaphysics, the university to be the locus for the quest of ideas, and academic disciplines—particularly the social sciences—to be less enamoured with facts and to maximize the use of logical constructs.

Jordon's framework for understanding the contemporary community is provocative and stimulating. But virtually all of the specific observations about education, although many of them may be most agreeable, have been made before, and there is no lack of statements on how to order our educational system. That Jordon's recommendations are planted in a general philosophical system does not, in my opinion, increase either their utility or the likelihood that they will be realized.

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Fosdick, R. B. *Adventure in Giving.* New York: Harper & Row, 1962. Pp. x + 369. $6.50.

The great foundations and philanthropic funds, particularly in their formative years, have often been alleged to possess a God-complex. The officers or directors develop a grand scheme for everything in general and for education in particular. They then proceed to make grants to minions who, drawn by dollars, are willing to carry out portions of the grand design or, in pursuit of their own objectives, find it expedient to accept largess from on high. Raymond B. Fosdick's fascinating narrative of the General Education Board confirms the belief that philanthropy has literally used intrigue at times to accomplish its purposes. He also makes it clear that, on more frequent occasion, it has risen to magnificent heights in support of plans and projects wherein there was no warranty except a belief in the quality of the individuals with whom the GEB was dealing.

Perhaps the best example of connivance to achieve ends ordained by the Board is described by Fosdick as a "benevolent conspiracy." It was the view of the Board, after a three-day survey in December, 1927, that Negro institutions of higher education in and about Atlanta should be federated in the manner of the Claremont Colleges or the several units of the University of Toronto. Moreover, it was deemed wise and expedient to trigger this federation by the establishment of a common library on "neutral territory." The then younger Rockefeller responded "immediately and cordially" to an appeal by organizing the Seaboard Realty Company, which proceeded "anonymously" to pick up the options on the neutral property. Title was acquired by this means, and the Board then earmarked a million dollars for the library, thus assuring the first step in the grand federation. Who can say? Perhaps on occasion the ends do justify the means. Or do they?

Despite this and other examples of a master plan, Fosdick quotes Wallace Buttrick, key figure in the Board's affairs for a quarter of a century, as saying, "The policy of the General Education Board is to have no policy." Admittedly an exaggeration, the statement is yet valid and well supported by the evidence if the word *policy* is broadly construed. In its application, the policy of no policy provided the Board with flexibility to move directly into the pressing problems of the times. Precedent was rarely controlling. Moreover, grants made for initially restricted purposes were many times released subsequently to the general and unrestricted use of the receiving agency. Reflecting the views of the Rockefellers, the Board was always fearful of situations in which grants "are tied up to rigid and unchangeable purposes." Grants made to Teachers College in support of the Lincoln School, the subsequent liberalized use of which was even contested in the courts by the Board, was, no doubt, a case in point, demonstrating the long-term wisdom of the "policy."

The GEB had its beginning in the grand tours staged by northern and eastern millionaires and their advisers. The problem was how to reconstruct and restore the shattered South in the years following the Civil War. Many of the resulting rescue programs were ill conceived, and most of them were abortive. One of the post-bellum tours of the South, however, was particularly fortunate in its leadership and composition. Led by Robert C. Ogden, and accompanied by such men as John D. Rockefeller, Jr., Walter Hines Page, and George Foster Peabody, the party was possessed of wisdom, dedication, and money. To Rockefeller, the trip was "one of the outstanding events of my life."

The work of the Board began in the South with education; fittingly, it ended there. In between, it touched all the basic educational problems of the periods, influenced scores of institutions, and set patterns of education, social service, and philanthropy. It displayed a talent for bringing together great minds and strong personalities for the purpose of making its studies, conducting its surveys and carrying out its programs. A partial roll call includes the likes of Frederick T. Gates, Jerome D. Greene, Wickliffe Rose, Leo M. Favrot, Trevor Arnett, Robert J. Havighurst, Chester I. Barnard, Lindsley F. Kimball, Dean Rusk, and Fosdick himself.

And then, of course, there was the redoubtable and indefatigable Abraham Flexner. He is given credit in history for having reformed American medical education. He deserves equal credit as a critic and innovator in philanthropic practice. Present-day philanthropoids need a critic of his calibre. Alas, there is none.

The trustees of the General Education Board commissioned the writing of this book as a guide to the future and as a memorial to the labor of the men and women who carried on the work. Fosdick has achieved these purposes admirably.

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Daly, L. J., S. J. *The Medieval University, 1200-1400.* New York: Sheed & Ward, 1961. Pp. xiv + 241. $5.00.

From the medieval university grew today's curriculum, faculty-student traditions, and town-and-gown relations. The medieval university fashioned much of what we know today as law, medicine, philosophy, theology, the arts of language. The functions of the modern university proliferate from these to preparation in more of the professions and trades which the young man enters today only with a license—a license based commonly upon preparation by a course of university study. The New York State Board of Regents, for example, will give you a license, upon due certification and payment of fees, for more than *five dozen* specialities.

What, then, is a university? Is it an association of students? Or is it an association of teachers? The universities at Bologna and Paris started down the separate roads with real consequences for the university today, when federal tax funds provide over half the income of many graduate schools classed as "private," and "national goals" are urged upon schools of all levels. Experiences of the medieval university are still relevant. What does it do to the university to be dependent upon support from,

1. Income from tuition paid by students?
2. Payments from parents?
3. Funds from the local community or philanthropists?
4. Funds from the church?
5. Grants from the emperor or state?

"He who pays the piper calls the tune." The climate in which the teacher works and the curriculum are set by such factors, in elementary and secondary as well as higher education. In view of current nationalisms, perhaps there is need for an international university? Perhaps a real service could be rendered by institutions formally dedicated to—and supported by—the world community, conceivably in some formal relationship to the United Nations.

Does higher education need a universal language? Should there be a universal professional teacher's license, good everywhere? Should diplomas and degrees be conditioned upon lectures heard, readings reported, or examination results? Should teachers question students, or students question teachers? Should teachers give marks to students, or students grade their teachers? Father Daly shares the excitement of hard questions met in the medieval university. They are still hard questions for us, and this book helps provide a useful perspective on them.

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Stoddard, G. D. *The Dual Progress Plan.* New York: Harper, 1961. Pp. 225. $4.00.

The Dual Progress Plan being tried in grades 3—6 of the Ossining and Long Beach, NY, schools, under the aegis of New York University, is a synthesis of a number of variations on the conventional self-contained classroom prevalent in elementary schools today. Based primarily on a distinction between "cultural imperatives"—the language arts and social studies—and "cultural electives"—mathematics, science, art, and music—each child's school day is divided into one half devoted in self-contained fashion to the imperatives and a second half departmentalized in ungraded sections for study of the electives. It is cogently argued that the new programs in science and mathematics in elementary schools are forcing us to face the increasingly impossible task set the elementary school teacher in the self-contained pattern. Under this new plan, mathematics and science teachers will be able to carry children as far and as fast as they can go; elementary teachers at home in teaching language arts and social studies will carry two graded "core" classes a day. They will be "homeroom" teachers and will be able to know their children as present teachers do by operating in a two-year cycle, under which they will carry a class on to the next grade each year while picking up a new one at the lower grade.

The plan finds support in the factor analyses of abilities in the school curriculum, going back to Brigham and Kelley even before Thurstone. These studies showed two imperfectly correlated factors of linguistic and quantitative reasoning power underlying the English-social-studies-languages and the mathematics-physical-science sectors of academic scholarship. If the plan proves effective, it may be due at least in part to the fact that it is adapted to this unmentioned differential in learning and teaching abilities. Many would quarrel with resting the case so heavily on mathematics and science as "electives."

The Dual Progress Plan definitely has a place among the alternatives actively to be explored by the elementary schools in our current efforts to make practical adaptations to individual differences. It is to be regretted that more systematic reference is not made to other variations. The modified-platoon-plus-case-conference program across the Hudson River at Nyack has been in operation 25 years and has been written up favorably several times. Complete departmentalization and the Joplin Plan of schoolwide study of reading (or other subjects) at a fixed period each day in achievement groups are as truly alternatives to the plan as are the foundation-sponsored variations discussed. There is mention of the possibility of combinations with other plans at other grade levels—*e.g.*, the ungraded primary—but one might prefer a more flexible view, implying that one plan or combination may be good for some school faculties, while another may take better advantage of the aptitudes and interests of other staffs.

We may rejoice in the temperate claims for the plan made on the basis of very careful research both here and in reports by the staff at professional meetings. In particular, it is admitted that teacher re-education requires time before results in improved pupil achievement are to be expected. Meanwhile, the opinions of parents, children, and teachers are increasingly favorable, except for the provision that promotion is in terms of the cultural-imperatives core only.

To many readers, an outstanding feature of this book will be the documentation it gives of the way a major foundation insisted on converting a controlled experiment into a demonstration project. In these times of rapid change, this poses nicely the basic question of whether the controlled experiment is the most fruitful means of producing needed changes in the organized complexities that are our school systems. The reviewer finds himself in agreement with those who look more toward demonstrations in operational school settings of the applicability of our considerable body of research findings, notably in the psychology of individual differences, to which for too long we have paid only lip service.

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Meerloo, J. A. M. *That Difficult Peace.* Great Neck, N.Y.: Channel Press, 1961. Pp. 190. $3.50.

In *That difficult peace*, Dr. Meerloo, with the clear, penetrating eyes of an experienced clinician, diagnoses the patient-world's condition as a chronic recurring eruptive disorder called war. He proceeds to describe in very lucid terms the underlying pathology—the frustration of man's primitive drives. "Every war is a dramatization of man's inner war, the externalization of his inner conflict." His prescription for peace contains the sound psychological ingredients of motivation, knowledge, insight, and mutual understanding. True to his medical background, he carries his therapeutics one step further—prevention. To achieve this, he foresees the development of a core of professionally trained world hygienists, capable of influencing the individual and group minds of man and society in the direction of peace—"peacefare." These new scientists of political psychology would set up training programs for freedom and responsibility as well as an ethical guidance program.

Meerloo makes it abundantly clear how easy it has been and is now to influence, direct, and control the minds of the unsuspecting masses. Even at this moment, when we are experiencing a remission of the war-disease through the application of cold compresses, we are being duped. In his opinion, the cold war is a very inadequate psychological defense mechanism against the outbreak of frank hostility, for it gives the enemy the opportunity to brainwash and eventually control the mind in spite of conscious efforts to the contrary. The cold-war defense maneuver will fail because it is based on fear; and fear, hate, and aggression are all related. Inevitably, they lead to projection, prejudice, discrimination, and scapegoating. Once this witches' brew has been concocted and applied, the inflammation breaks out anew on a grand scale.

Our defensive structure is also being weakened from a different direction, that of technological progress. Man, through his inquisitiveness and inventiveness, has created an awesome technology, but he has yet to ponder, much less to answer, the question of for what purpose. With scientific advances, our material productivity increases, our standard of living rises, and more time becomes available to more people to do less and less. Labor and life become mechanized, and man's mind slowly is anesthetized. The threat of man's losing his uniqueness and individuality looms on the horizon. With the destruction of the individual, we are only one step removed from the destruction of society.

It is good that Dr. Meerloo should write such a book at this time, attempting to make us uncomfortably conscious of what is happening in the world around us. It should be read widely by all thinking people, particularly those key leaders representing every group concerned with human behavior. It is to be remembered, however, that he is speaking essentially from the point of view of the physician-analyst who has had intimate contact with individual disordered behavior. While his experiences undoubtedly have been deep and varied, he is still bound by the limitations of a clinician.

At once, this is a source of strength as well as weakness in his presentation. Like many others who deal daily with the sick, he also makes the leap to sweeping generalizations about all mankind and offers a cure for the world's ills. Even if his therapeutic formula were applied, the following questions, among others, have to be settled: Who is the patient? Who is the doctor? What is a cure? Nevertheless, his contributions are real and will be useful to many.

The time is ripe for world governments, and especially for the UN to devote much more time, effort, and research dollars not to conquering outer space, but man's "inner space." The return from such an investment will be of the highest order. Even though man still is an infant in the process of becoming a civilized adult, he has the capacity to learn and possesses the potential for knowing, identifying, and controlling his instinctual impulses. These then can be placed in the service of mankind and peace, man's "spiritual challenge."

Except for Chapter 3, which is somewhat confusing and overlaps Chapter 2, *That difficult peace* is exciting—almost thrilling—reading. In the current crisis, time is critical; the world-patient is still sick. Although the disease-war is under temporary control, it can become acute and fulminating at any moment. Dr. Meerloo, in his hope for world-wide "peacefare," attempts to become the practical utopian. Would that there were more like him!

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Goodman, P. *Utopian Essays and Practical Proposals.* New York: Random House, 1962. Pp. xix + 289. $5.00.

This is a collection of occasional pieces which Paul Goodman has written over the last decade or so. Like most such collections, it is of uneven quality. Some of the essays are brilliant and memorable—for instance, a psychological study of "The Intellectual Inhibition of Explosive Grief and Anger" and a sketch of the history of "Advance-guard writing in America: 1900-1950." Some are thoughtful and sensible—those falling under the heading of "practical proposals," in which Goodman argues, for instance, in favor of banning cars from Manhattan and legalizing "hard-core" pornography. A few are dull and verge on fatuity. In such pieces as "Seating Arrangements: An Elementary Lecture in Functional Planning" and "Some Problems of Interpretation: Silence and Speech as Action," Goodman sounds as if he had been asked to speak on a topic about which he had nothing of particular urgency to say.

In general, Goodman is at his best (which is very good indeed) when he has unearthed the causes of a specific social phenomenon and is busy exposing them. He is distinctly worse whenever he self-consciously reflects on his own aims and methods, or drums up attention by viewing with alarm ("So we drift into fascism . . ."), or hands down dicta about the errors of competing social critics (witness his radically unfair and amazingly weakly argued essay on C. P. Snow). As an example of self-conscious reflection, consider his opening programmatic essay on "Utopian Thinking."

Here Goodman is concerned to answer the usual criticisms of far-reaching proposals for social reform. Among these, surely, is the familiar objection that people are, by and large, too dumb to desire what is intrinsically desirable, and hence that such proposals cannot be carried out in a democracy. The closest Goodman comes to dealing with this objection is to take up the claim that utopian ideas "propose an unusual dictatorial imposition on people." This claim, he tells us, is "unrealistic," for such impositions are by no means unusual. On the contrary, they are all about us, for "the present American . . . pattern has superseded the old with great suddenness; and it has certainly had the effect of being imposed, for it has created affectlessness, delinquency, fad without style, role without task, and inquiry after 'goals,' as if goals were not implicit in concrete activity." This admirably exact diagnosis of our situation should not blind us to the incoherence of the argument.

The traditional objection is that utopian ideas represent dictatorial impositions upon people who don't want what the utopians know they should want. Goodman tells us that such impositions are not unusual because we're being imposed on already. Even if we were, this would not, obviously, meet the objection. But Goodman now has to show that the American public has been forced to accept something it didn't want, for this surely is the normal meaning of "imposed." This is hard to show because, in the first place, all Goodman's examples of "the new pattern" (expressways, TV, expense accounts, etc.) are pretty clearly the results of giving the public what it asked for, and, in the second place, Goodman admits that "the system . . . protects every man's individuality, privacy, and liberty of choice" (despite, apparently, our "drift towards fascism"). So Goodman tells us that since the public's getting what it wanted has had side-effects which the public doesn't like (or, at least, shouldn't like), there has been "the effect" of imposition. Goodman's use of "effect" is uncomfortably close to Lenin's hilarious use of "objectively" (compare his use of "essentially" on p. 46 and of "effectively" on p. 48). His argument comes down to saying that since the public doesn't like the side-effects of getting what it wants, the question of whether it wants what utopians want need not concern us.

The awkwardness of this argument is not, I think, accidental. The problem of people not wanting what they should is *the* problem for the Deweyan social ethics which Goodman has adopted, and it crops up often in his book. Each time it does, it is nervously shrugged off. "Stupidity," we are told on p. 21, "is a character-defense." This is a premise which Goodman tacitly invokes throughout. Apparently people *would* want and enjoy what they should if only they weren't forced by the system continually to defend their characters. One might feel that "individuality, privacy, and liberty of choice" are about all we can expect a democracy to provide, and that from there on in, utopians must allow for the possibility that the citizens will freely, deliberately, and delightedly turn themselves into task-less TV-watchers.

But in Goodman's eyes a choice as bad as this can't *really* be a free choice; it must, somehow, be "the system" which is at fault. "The system has sapped initiative and the confidence to make fundamental changes." An initiative and a confidence which the public once did, in fact, have? Goodman seems to think so. In an earlier period of American life, it appears, we were devoted to "the noble pragmatic aim of developing a natural ethics and a moral politics," but "Americans have lost the spirit of their pragmatic philosophy . . . as we have moved from the expanding industrialism of the nineteenth century to the affluent technologism of today."

It is hard to make sense of the word "their" in this last sentence. Dewey's philosophy is the noblest and most profound statement of the aims of a democratic society which we have, but why pretend that it was ever the working philosophy of the American public? Goodman's picture of the natural man who is hidden behind the character-defense of stupidity, and of the confident, pragmatic mood of nineteenth-century America, supplies badly needed comfort to the utopian intellectual—the intellectual who can't bear the thought that his own sensitivity, decency, and capacity for joy are beyond the reach of his fellow-citizens. But it would be more faithful to the spirit of Dewey to treat such comforting pictures as ideals, rather than as descriptions of actualities which "the system" has obscured or destroyed.

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